

Butterflies of Western Ghats

An e-Book



Dr. Raju Kasambe

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Dedicated to
Two butterfly-passionate persons

Sri Isaac Kehimkar
the 'Butterfly-Man of India'



and

Sri Rajendra Ovalekar
The teacher who created a beautiful butterfly garden in Mumbai



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Foreword

Dr. Raju Kasambe, an ornithologist by profession, is an all round naturalist, interested in plants, insects, butterflies, birds, mammals and reptiles. He is a perfect staff of BNHS – the organization known for its natural history work for the last 134 years. Raju, as he is affectionately called by his colleagues and admirers, is an affable man and a prolific writer. I am proud to write Foreword for his new book, *Butterflies of Western Ghats*.

This is an e-Book which can be downloaded free of cost and used on any smart phone or computer. It is made as a simple PDF so that any species can be searched using the search option. This is the second eBook written by Raju. He has already published an eBook in Marathi on “*100 Common Birds in Maharashtra*” which was much appreciated in Maharashtra.

This e-Book has descriptions and photographic illustrations of 277 species of butterflies. Each page has information like common and complete scientific name, wings span, distribution, larval host plants, and information about the subspecies found in South India.

I think, this is the first of its kind e-Book on the subject, as books which are accessible to the masses are need of the day. Now a day, even Android Apps are becoming an important source of information. The e-Book has an entire chapter highlighting the importance of the Western Ghats as a ‘Biodiversity Hotspot’. The diversity and endemism of butterflies found here drives home the point that the entire Western Ghats should be conserved at any cost.

I am sure the e-Book will be useful to all, including butterfly lovers and naturalists.

Asad R. Rahmani

Senior Scientific Advisor,
Bombay Natural History Society, Mumbai

Preface

If we want to spread knowledge about butterflies to the present generation, it should be provided in the most accessible and handy format. There are more chances of a nature lover referring to a book, if he has an easy access to it. Hence Android Apps and e-Books are the latest educational tools we must utilise. After publishing an e-Book on the “*Maharashtratil 100 Samanya Pakshi*” (aka *100 Common Birds in Maharashtra*) in Marathi, I received tremendous response and equal satisfaction. I believe in sharing best of the photographs clicked by me for public usage on websites like Wikimedia Commons or Wikipedia under the Creative Commons License.

This e-Book is being published solely for the educational purpose and no commercial gains are expected out of it. The e-Book is free for downloading and distribution and does not bear any price. I urge nature lovers and butterfly photographers to help with better quality photographs of the remaining species of butterflies found in the Western Ghats, so that the second edition of this e-Book will be more comprehensive and better.

I believe in sharing knowledge and propagation of knowledge for the conservation of the flora and fauna of our country.

Photographs taken by me are copyrighted under the Creative Commons Attribution 3.0 License. These can be used by anybody for educational purpose. However, for photographs taken by others, the copyright remains with them. I suggest that the individual photographers be contacted, or the appropriate licenses be checked before they are used by anybody.

I request experts to suggest improvements in the e-Book. Please inform me if you find any mistakes in the e-Book, which can be rectified in the second edition.

I hope this e-Book will be of use to the young nature lovers, it will give them company at the most inaccessible places. I look forward to your help by providing photographs of missing species and suggestions for the second edition of this e-Book.

Raju Kasambe

Acknowledgements

My sincere thanks to the following friends (in alphabetical order) who have contributed their beautiful and photographs of rare butterfly species for this e-Book. Some of the friends literally opened up their vast collections for me to take any photographs. I am grateful to all of them. Without photographs the e-Book would not have been useful. Many of them have selflessly contributed their innumerable photographs to Wikipedia and Wikimedia Commons making them available to the world without any expectations or gains.

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I want to thank the two websites (www.ifoundbutterflies.org and www.flutters.org) for making an exhaustive knowledge bank on Indian butterflies available to all.

Dr. Deepak Apte (Director, Bombay Natural History Society) has always inspired me to write books against all odds. I learnt a lot from Dr. Asad Rahmani (Senior Scientific Advisor, BNHS) and I feel indebted to him for his guidance. Guidance from Mr. Isaac Kehimkar (butterfly expert) about butterflies has immensely helped me in working on this e-Book. Isaac's books had always been the most referred and inspiring source for me.

I had written most part of this e-Book in 2012, when I published my Marathi book on '*Maharashtratil Phulpakhare*' (aka *Butterflies of Maharashtra*), but the book got delayed due to other priority work at hand. Support by many friends and colleagues at BNHS and my family has always helped me in keeping myself motivated.

Raju Kasambe

Introduction: Life cycle and Morphology of a Butterfly

Butterflies are classified under the Order Lepidoptera, together with the moths.

Life Cycle of Butterfly

To grow into an adult butterfly, butterflies go through of four stages. These are egg, caterpillar (or pupa), cocoon (or chrysalis) and the adult butterfly.

Egg

Like humans, there are male butterflies and female butterflies. After the



Egg of Common Palmfly by Raju Kasambe

fertilization of the female's eggs by the male's sperm, the female deposits the eggs on leaves or stems of plants. This is the first stage in the life cycle of a butterfly - the egg stage. Butterflies have their own choice of plant on which to lay eggs, they may lay eggs on one or many species of plants. But, they do not lay eggs on every plant. The eggs of each species are different in shape and size and can be spherical or oval etc. This stage

lasts from days to weeks.

Caterpillar or Larva

The second stage occurs when then the egg hatches and gives rise to the butterfly



Caterpillar of Common Rose by Raju Kasambe

larva or caterpillar. At this stage, which may last for several days or weeks, the larva spends its time eating and sleeping. Most butterfly caterpillars eat plant leaves but a few caterpillars can eat insects (e.g. Apefly in India).

The development of caterpillars involves developmental stages called instars. The

instar signifies moulting of the skin (cuticle) by the caterpillar. Instars are important because they allow the caterpillar to grow. The butterfly undergoes about 4 to 6 moultings before finally going to the next stage, i.e. pupation.

Chrysalis or Cocoon

The third stage involves the transformation of the larva into chrysalis or pupa.



Pupa of Common Rose by Raju Kasambe

When the larva has grown to its full size, it seeks a safe location for pupation. This location is usually the underside of the leaf but can also occur in the stems or secluded place on a tree trunk.

After the larva molts for the last time, it then surrounds itself with the material that makes up the cocoon. The pupa inside the cocoon is incapable of movement and it is not able to actively

hide. Mostly it is hard to locate the cocoon since its color usually camouflages with the background environment.

Pupation may last for 2–3 weeks, after which the butterfly adult emerges from the cocoon.

Butterfly

The fourth and final stage is the adult stage. It is a delight to see an adult butterfly emerge from the cocoon. However, the butterfly cannot fly immediately after emerging out of the cocoon. It spends the sometime (few hours or minutes) drying its body and wings before it finally takes off.



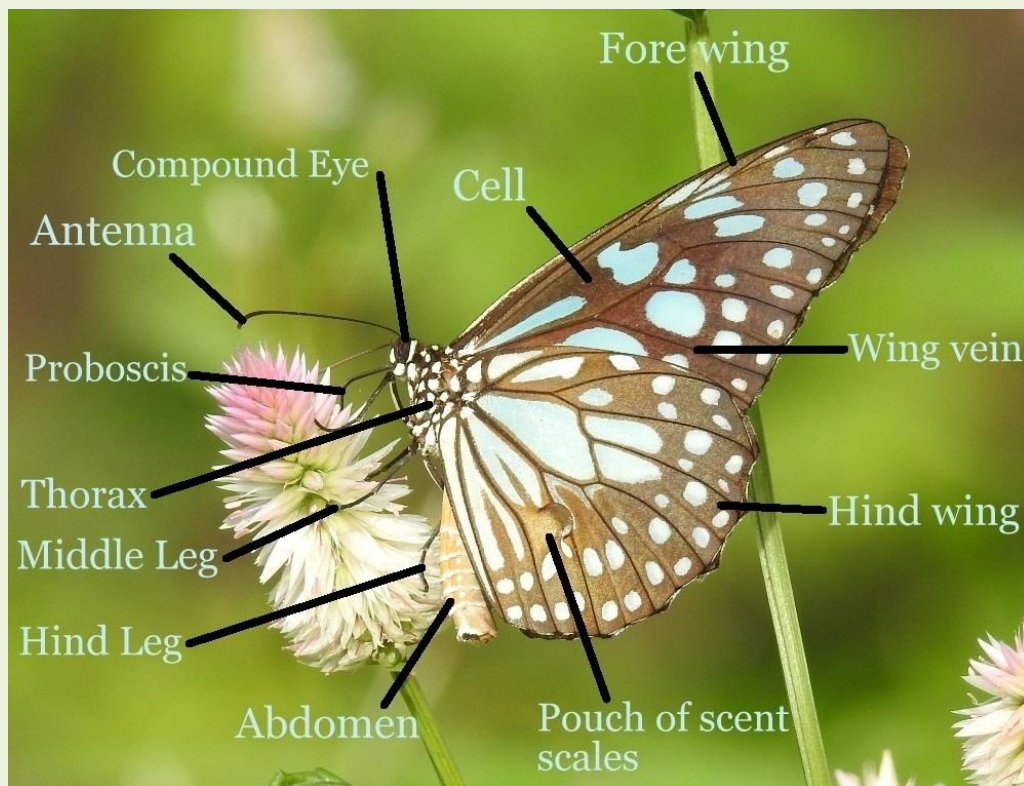
Common Nawab adult by Raju Kasambe

During this stage, the butterfly already has six legs and four wings—a pair of

forewings and another pair of hindwings. When the butterfly is already an adult, it can gather nectar from flowers for its food and reproduce. It can give rise to other beautiful butterflies.

Morphology of a Butterfly

Here are the meaning of the terminology used to describe various body parts of a butterfly.



Butterfly underside morphology illustration (Blue Tiger Male) by Raju Kasambe

Head

Anterior portion of the butterfly's body containing the sensory organs and the brain.

Thorax

Portion of the butterfly's body divided into three segments; it contains the motor appendages, such as the legs and wings.

Wing vein

Protruding line that gives the wing its rigidity and enables the blood to circulate.

Cell

Constituent element of a butterfly's wing contained between the wing veins.

Antenna

Sensory organ made up of several segments and having mainly tactile and olfactory functions.

Compound eye

Organ of vision made up of thousands of facets that perceive shapes, colors, motion and distance.

Proboscis

Mouthlike part allowing the butterfly to feed through aspiration; the proboscis folds back onto itself to avoid interfering with flight.

Foreleg

Articulated member attached to the first segment of the thorax and having powerful sensory organs.

Middle leg

Large articulated member attached to the central segment of the thorax and having powerful sensory organs.

Hind leg

Large articulated member attached to the terminal segment of the thorax and having powerful sensory organs.

Abdomen

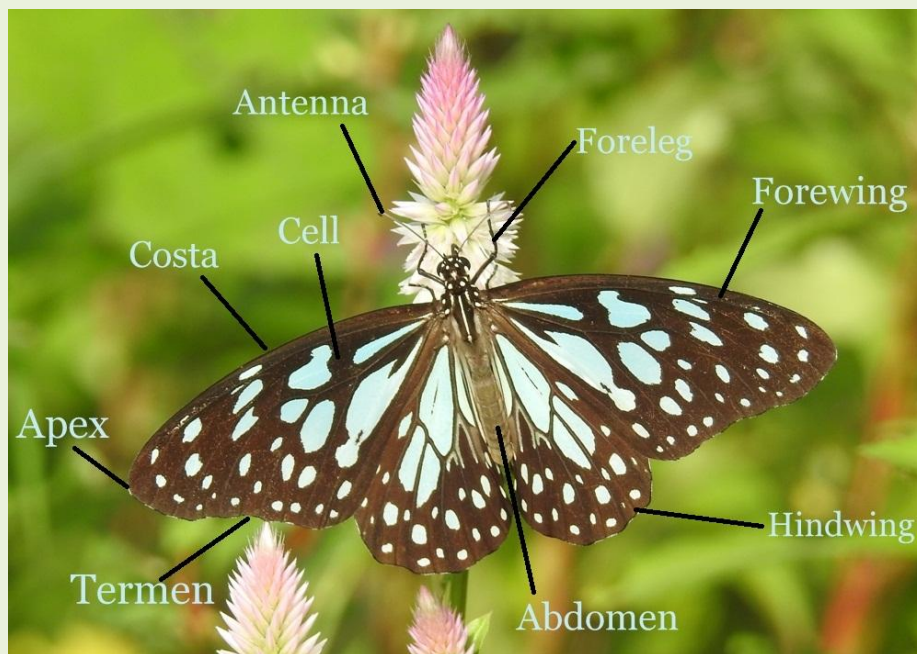
Posterior portion of the butterfly's body made up of 10 segments and containing the major vital organs, such as the heart, the intestines and the genital organs.

Hind wing

Appendage of flight attached to the terminal segment of the thorax.

Forewing

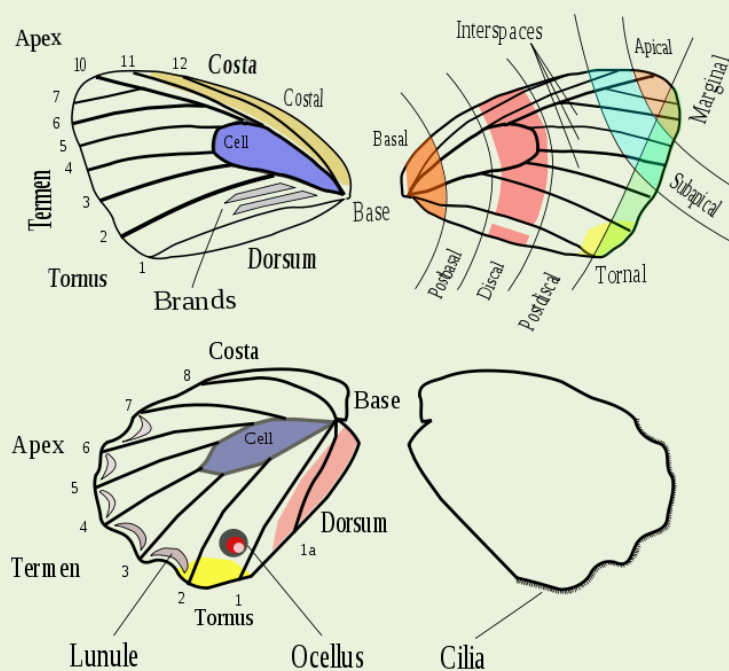
Appendage of flight attached to the central segment of the thorax.



Butterfly upperside morphology illustration (Blue Tiger Male) by Raju Kasambe

Parts of wings

Here is an illustration showing parts of butterfly wings.



Difference between moths and butterflies

Moths are stout and fuzzy, whereas butterflies are slender and smooth.

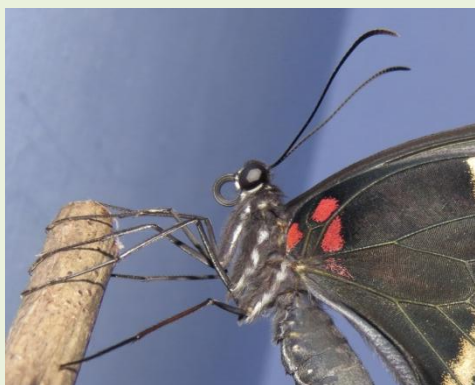
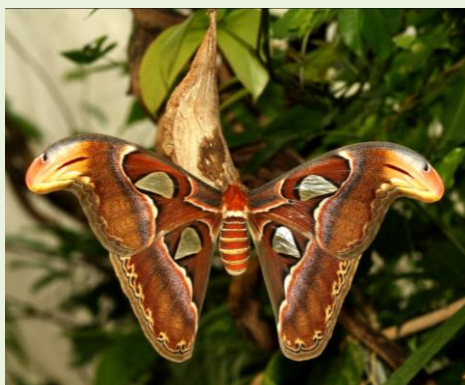
Butterflies are diurnal (active during the day) whereas moths are nocturnal. There are some exceptions to this, as some butterflies are crepuscular and some moths are diurnal.

Butterfly antennae are thin with club-shaped tips, compared with the feathery or comb-like antennae of moths.

While at rest, butterflies usually fold their wings back over the bodies, while moths flatten their wings against their bodies or spread them out in a "jet plane" position.

Butterflies form chrysalises (or cocoons) which are hard smooth and silkless.

Moths make cocoons that are wrapped in silk coverings.



Clockwise from left:
Atlas Moth showing typical wing position (Photo by Raju Kasambe)

Blue Mormon showing club-shaped antenna (Photo by Vinayraj)

Comb-like antennae of a moth (Photo by Raju Kasambe)

Moth showing feathery antenna and furry body (Photo by Alvesgasper)

Western Ghats – Butterflies



Evergreen forests in Western Ghats in Periyar Tiger Reserve in Kerala by Manu Gangadhar.

Based on the distribution and status of butterflies and their host plants, Western Ghats can be divided into three biogeographical parts (Gaonkar 1996).

Southern Western Ghats: The southern and most important part starts from just north of Nagacoil (in Tamil Nadu) up to the Palghat gap. This area is home to the highest number of species as well as endemics. Unfortunately, the lowland evergreen forests in this area have mostly been replaced with plantations other anthropogenic pressures exist here. The unique species of this area are Red-disc Bushbrown *Mycalesis oculus* and Palni Fourring *Ypthima ypthimoides*. This area is home to around 317 species of butterflies.

Centrel Western Ghats: The second important part starts north of the Palghat Gap from the Nilgiri Wynaad area to South Goa. However, some endemic species

are found even up to southern Maharashtra, at least up to Amboli Ghat area in Sawantwadi taluq, Sindhudurg district. Many endemic species are not found above Amboli Ghat. The species diversity is less than the southern part. The only species unique to this area is Redeye Bushbrown *Mycalesis adolphe*. Butterfly fauna in three districts, viz., the Nilgiris, Coorg and North Canara are well documented. This area is home to around 316 species of butterflies.

Northern Western Ghats: The third part is in Maharashtra and south Gujarat. This area has less diversity with around 200 species reported north of Amboli Ghat. Many species from the central Western Ghats are not found here.

State-wise Butterfly diversity of Western Ghats (Gaonkar, 1996):

Butterfly Families No. of species (Endemics)	States					
	Kerala	Tamil Nadu	Karnataka	Goa	Maharashtra	Gujarat
Papilionidae 19 (5)	19	19	19	18	13	11
Pieridae 33 (3)	31	31	29	27	24	23
Nymphalidae 96 (12)	95	94	92	70	59	41
Lycaenidae 101 (5)	93	97	98	78	71	51
Hesperiidae 81 (12)	76	75	78	56	40	32
Total species 330 (37)	314	316	316	249	208	158

Karnataka, Goa and Maharashtra will also increase their species numbers once study becomes more intensive and systemic.



Forest in monsoon in Sanjay Gandhi National Park, Mumbai, Maharashtra by Shreesh Deshpande

Importance of Butterflies in Nature

Butterflies may be better indicators of the health of our environment than birds.

— Roger Tory Peterson

Why butterflies are important

There are many reasons why butterflies and moths are important, both in their own right but also as quality of life indicators. Here is a summary of the main reasons for conserving butterflies and moths in the world.

As pollinators of crops and other flowers

Butterflies serve as important plant pollinators in the local environment, and help pollinate hundreds of economically important plant crops. The role played by pollination and cross-pollination in the development of crop varieties and evolution of plants is immense and not really understood well. The thousand-year old silk industry is also dependent on Lepidoptera (moths), but increased pesticide use around the world has caused population declines of silk moths.

Our Natural Heritage

Butterflies are the natural heritage of our country. The entire biodiversity we have is the treasure trove we have, which we have got from our ancestors and need to preserve them. Butterflies are flagship species for conservation in general, and in particular for invertebrates.

Intrinsic value

Butterflies and moths are intrinsically valuable and are worthy of conservation in their own right. Butterflies and moths are part of the life on the earth and an important component of its rich biodiversity. They have been around for at least 50 million years and probably first evolved some 150 million years ago. Butterflies and moths are a highly diverse group comprising over 250,000 species and make up around one quarter of all named species.

Aesthetic value

Butterflies and moths are beautiful. We humans love all beautiful things in nature. Butterflies add to the aesthetic value of any natural landscape and heritage. Many butterflies are iconic and popular. Butterflies have been studied for over 300 years by humans.

People like butterflies

There are many references to butterflies and moths in literature, from the Bhagwad Gita to Bible through Indian folklore modern day literature, and from poetry to musical lyrics. Butterflies are used by advertisers and illustrators the world over as way of indicating that something is environmentally friendly. Butterflies are often portrayed as the essence of nature or as representing freedom, beauty or peace.

Educational value

Butterflies and moths have fascinating life-cycles that are used in many countries to teach children about the natural world. The transformation from egg to caterpillar to chrysalis is one of the wonders of nature.

Other educational aspects include the intricate wing patterns and iridescence, and as examples of insect migration.

Scientific value

Butterflies (and moths to a lesser extent) are an extremely important group of ‘model’ organisms used, for centuries, to investigate many areas of biological research, including such diverse fields as navigation, pest control, embryology, mimicry, evolution, genetics, population dynamics and biodiversity conservation.

The long history and popularity of butterfly study have provided a unique data resource on an insect group unmatched in geographical scale and timescale anywhere in the world. This has proved extremely important for scientific research on climate change.

Ecosystem value

Butterflies and moths are indicators of a healthy environment and healthy ecosystems. They indicate a wide range of other invertebrates, which comprise over two-thirds of all species. Areas rich in butterflies and moths are rich in other invertebrates. These collectively provide a wide range of environmental benefits, including pollination and natural pest control.

Moths and butterflies are an important element of the food chain and are prey for birds (like bee-eaters, drongos and flycatchers), bats and other insectivorous animals (like lizards and geckos). Butterflies and moths support a range of other predators and parasites (like the parasitoid wasps), many of which are specific to individual species, or groups of species.

As Indicators of the Health of Environment

Butterflies have been widely used by ecologists as model organisms to study the impact of habitat loss and fragmentation, and climate change.

Health value

People enjoy seeing butterflies both around their homes and in the countryside. Social media groups of butterfly lovers in India have more than 20,000 members. These people photograph, survey and share butterfly information on social media. They travel thousands of kilometers in search of butterflies. Now, butterfly gardening is becoming an important passion and many butterfly gardens are in the making in India. People feel distressed in the company of butterflies and they love to watch and photograph them.

Economic value

Thousands of people visit India each year looking for butterflies. Eco-tourism and now butterfly tourism is bringing in valuable income to many local tribes and butterfly garden owners across the country. Sikkim, Arunachal Pradesh, Assam, Kerala and Maharashtra have become hubs of butterfly tourism and related businesses.

Every butterfly and moth has developed its own suite of chemicals to deter predators and parasites, find a mate, and overcome the chemical defences of its host plant. Each of these chemicals has a potential value and could be exploited economically.

Conservation of butterflies

In India, study and research on butterflies is still at the basic level. We are still working mostly on the diversity inventories of various places. There are some good research papers coming out on other aspects of Lepidoptera.

We have few names for butterflies in regional languages, but people do not have detailed information about butterflies. People's awareness regarding butterflies and their conservation is almost next to nothing. It is for this reason butterflies are given little importance in the issues of wildlife conservation.

Only recently, in June 2015, Maharashtra declared Blue Mormon *Papilio polymnestor* as the 'State Butterfly'. Recently, in August 2016, Karnataka also declared Southern Birdwing *Troides minos* as its 'State Butterfly' recognizing the importance of the butterflies in nature.

Now a good amount of academic research on butterflies is taking place in India but we do not have good bibliographies on published information or baseline data on butterflies. For many of our protected areas we have inventories for several other biological groups (mammals, birds, reptiles, trees etc.), most of our parks and sanctuaries do not even have butterfly lists.

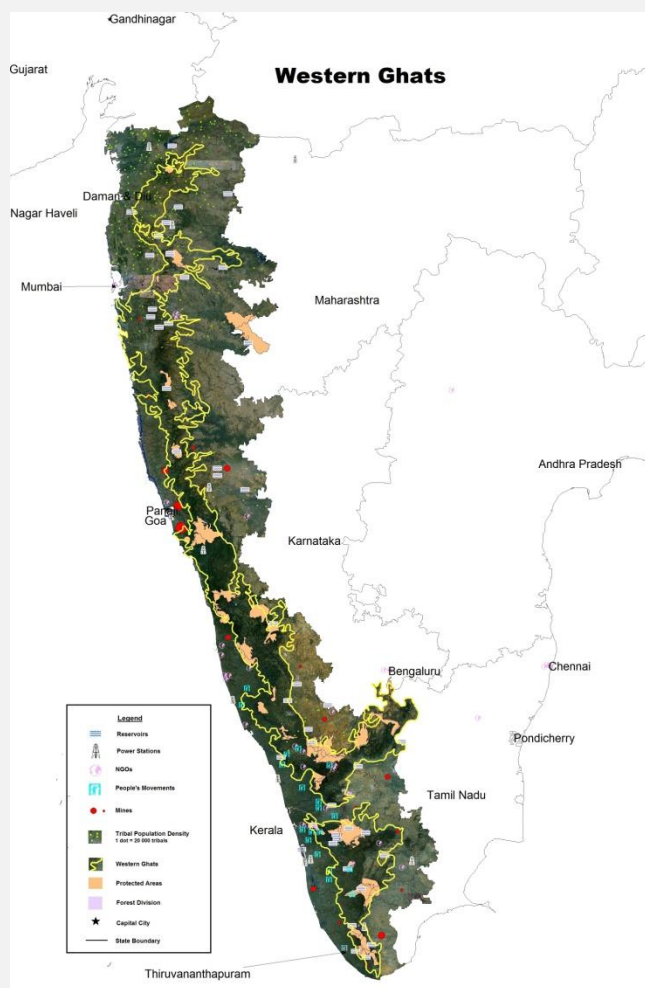
Moreover, very few serious ecological studies on the Lepidoptera of the region have been undertaken and thus very little technical information is available for managers and policy makers to take steps for effective butterfly conservation.

Habitats have been and are being destroyed on a massive scale. Now with the looming threat of climate change and increasing pollution of the atmosphere may result into the disappearance or drastic decline in the numbers of butterflies in many areas.

Conserving butterflies will improve our whole environment for wildlife and enrich the lives of people now and in the future.

Western Ghats – Hotspot of Biodiversity

The Western Ghats or Sahyadri runs north to south along the western edge of the Deccan Plateau of India, and separates the plateau from a narrow coastal plain along the Arabian Sea. The range starts near the border of Gujarat and Maharashtra, south of the Tapti River, and runs approximately 1600 km through the states of Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala ending at Kanyakumari. These hills cover 160,000 km² (roughly 6% of India's total geographical area) and form the catchment area for complex riverine drainage systems that drain almost 40% of India. The average elevation is around 1200-1300 metres. Western Ghats are home to 30% of flora and fauna species found in India.



Older than the Himalaya mountains, the mountain chain of the Western Ghats represents geomorphic features of immense importance with unique biophysical and ecological processes. The site is recognized as one of the world's eight 'hottest hotspots' of biological diversity by UNESCO.

Western Ghats are spread in six states viz. Gujarat, Maharashtra, Goa, Karnataka, Tamil Nadu, Kerala and two Union Territories viz. Dadra & Nagar Haveli and Pondicherry. The range starts near the border of Gujarat south of Tapti river where foothills of the ranges are occupying the eastern portion of Dadra and Silvassa in D&N. Running around 1600 kilometers down south, it ends at its southern part at Anamudi peak in

Kerala. The mountain stretch is interrupted only by the 30 km Palghat Gap at around 11°N. Mahe in Pondicherry is situated on the Malabar coast on the Western Ghats surrounded by Kerala Mountains.

In northern Maharashtra Western Ghats are known as *Sahyadri*, in Kerala as *Sahya Parvatam* and in Tamil Nadu as *Nilagiri Malai*.

Western Ghats are home to many hill stations like Matheran, Lonavala-Khandala, Mahabaleshwar, Panchgani, Amboli Ghat, Kudremukh and Kodagu. The extreme northern parts of Western Ghats falls in the Dangs district of Gujarat, known for Dang (Bamboo) forests. The confluence of the Eastern and the Western Ghats is at Biligirirangan Hills in Karnataka. Anamudi at 2,695 metres in Kerala is the highest peak in Western Ghats. Mullayanagiri is the highest peak in Karnataka at 1,950 meters.

The smaller ranges of the Western Ghats include the Cardamom Hills and the Nilgiri Hills. Cardamom hills are located in southeast Kerala and southwest Tamil Nadu. They conjoin the Anaimalai Hills to the northwest, the Palni Hills to the northeast and the Agasthyamalai Hills to the south as far as the Ariankavu pass. The crest of the hills forms the boundary between Kerala and Tamil Nadu. Anamudi is also located in Cardamom Hills. The Nilgiri Hills are home to the hill station Ooty. There are many important passes in Western Ghats such as Tamhini Ghat, Palakkad Gap, Naneghat, Kasara ghat etc.

The northern portion of the narrow coastal plain between the Western Ghats and the Arabian Sea is known as the Konkan Coast, the central portion is called Kanara and the southern portion is called Malabar region or the Malabar Coast. The foothill region east of the Ghats in Maharashtra is known as Desh, while the eastern foothills of central Karnataka state is known as Malenadu.

A significant characteristic of the Western Ghats is the exceptionally high level of biological diversity and endemism. This mountain chain is recognized as one of the world's eight 'hottest hotspots' of biological diversity along with Sri Lanka. The forests of the Western Ghats include some of the best representatives of non equatorial tropical evergreen forests in the world. At least 325 globally threatened (IUCN Red Data List) species occur in the Western Ghats. The globally threatened flora and fauna in the Western Ghats are represented by 229 plant species, 31

mammal species, 15 bird species (now 26), 43 amphibian species, 5 reptile species and 1 fish species. Of the total 325 globally threatened species in the Western Ghats, 129 are classified as Vulnerable, 145 as Endangered and 51 as Critically Endangered (Source: <http://whc.unesco.org/en/list/1342>).

Rivers

The rivers that originate in Western Ghats and flow towards west are Periyar, Bharathappuzha, Netravati, Sharavathi, Mandovi etc. The west flowing rivers of Western Ghats are fast-moving, owing to the short distance travelled and steeper gradient. The steep gradient makes the Jog Falls on Sharavathi River in Karnataka as one of the most spectacular waterfalls in India. The rivers that originate in Western Ghats and flow towards east include three major rivers viz. Godavari, Krishna and Kaveri, and many smaller tributary rivers such as Tunga, Bhadra, Bhima, Malaprabha, Ghataprabha, Hemavathi, Kabini. These east flowing rivers are comparatively slower moving and eventually merge into larger rivers such as the Kaveri and Krishna.

Climate

Climate In comparison to the eastern side, the western side of the Western Ghats is area of high rainfall because the mountains intercept the rain-bearing westerly monsoon winds. The dense montane forests also contribute to high precipitation. The climate is humid and tropical in the lower reaches tempered by the proximity to the sea. Elevations of 1,500 m and above in the north and 2,000 m and above in the south have a more temperate climate.

Average annual temperature here is around 15 °C. In some parts frost is common, and temperatures touch the freezing point during the winter months. Mean temperature range from 20 °C in the south to 24 °C in the north. It has also been observed that the coldest periods in the south Western Ghats coincide with the wettest. During the monsoon season between June and September, the unbroken Western Ghats chain acts as a barrier to the moisture laden clouds. The heavy, eastward-moving rain-bearing clouds are forced to rise and in the process deposit most of their rain on the windward side. Rainfall in this region averages 3,000–4,000 mm. The eastern region of the Western Ghats which lie in the rain shadow, receive far less rainfall averaging about 1,000 mm bringing the average rainfall figure to 2,500 mm.

Vegetation

Due to a sharp contrast in precipitation between western and eastern slopes of the Western Ghats, there is a clear difference between the vegetation of the two sides. Similarly, there is also a clear contrast between the northern and southern Western Ghats. Moreover, the vegetation found on the high hills is also different from the low hills. Thus, there are various kinds of vegetations found in Western Ghats as follows: The western slopes have tropical and subtropical moist broadleaf forests marked predominantly by Rosewood, Mahogany, Cedar etc. These slopes appear green in almost all parts of the year. No time is fixed when these trees would shade their leaves. The eastern slopes of the Western Ghats have dry as well as moist deciduous forests marked predominantly by Teak, Sal, Shisham, Sandalwood *etc.* trees. Further, on the northern side of the Wayanad forests; we find dry deciduous forests while on the southern side there are wet deciduous forests. The evergreen Wayanad forests of Kerala mark the transition zone between the northern and southern ecoregions of the Western Ghats.

The southern ecoregions are generally wetter and more species-rich. South Western Ghats Montane rain forests are the most species-rich ecoregions in peninsular India. Eighty percent of the flowering plant species of the entire Western Ghats range are found in this ecoregion. The areas which are high in elevation are cooler and wetter in the north and so the forests there are called North Western Ghats Montane rain forests. The vegetation here is evergreen characterized by trees of family Lauraceae. Such plants include *Litsea glutinosa* or Maida lakri in Hindi (a plant of medicinal value), *Cinnamomum* (Tejpatta) *etc.* There are montane grasslands as well as stunted forests also in the Western Ghats. The forest in the Western Ghats has been severely affected due to human activities, especially clear felling for tea, coffee, and teak plantations during 1860 to 1950.

Species that are rare, endemic and habitat specialists are more adversely affected and tend to be lost faster than other species. Complex and species rich habitats like the tropical rainforest are much more adversely affected than other habitats. The area is ecologically sensitive to development. Though this area covers barely five percent of India's land, 27% of all species of higher plants in India (4,000 of 15,000 species) are found here. Almost 1,800 of these are endemic to the region.

Protected Areas

Western Ghats is home to India's two biosphere reserves, 13 National parks, several wildlife sanctuaries, Important Bird Areas (IBAs) and many Reserve Forests. The Nilgiri Biosphere Reserve comprising 5500 km² of the evergreen forests of Nagarahole, deciduous forests of Bandipur National Park and Nugu in Karnataka and adjoining regions of Wayanad and Mudumalai National Park in the states of Kerala and Tamil Nadu forms the largest contiguous protected area in the Western Ghats. The Silent Valley National Park in Kerala is among the last tracts of virgin tropical evergreen forest in India.

Fauna

There are two biodiversity hotspots in our country viz. Eastern Himalayas and Western Ghats. Western Ghats are home to over 5000 species of flowering plants, 139 mammal species, 508 bird species and 179 amphibian species, many undiscovered species lives.

Mammals

There are at least 139 mammal species. Of the 16 endemic mammals found in Western Ghats, 13 are threatened. Following four are important species endemic to Western Ghats. Malabar Large-spotted Civet or just Malabar Civet *Viverra civettina* (Critically Endangered), Lion-tailed Macaque *Macaca silenus* (Endangered), Brown Palm Civet *Paradoxurus jerdoni* (Least Concerned) and Nilgiri Tahr *Nilgiritragus hylocrius* (Endangered).

Birds

There are more than 500 bird species reported from Western Ghats. There are at least 26 species of birds endemic to the Western Ghats including the Nilgiri Imperial-pigeon *Ducula cuprea*, Nilgiri Woodpigeon *Columba elphinstonii*, Grey-fronted Green-pigeon *Treron affinis*, Malabar Parakeet (Blue-winged Parakeet) *Psittacula columboides*, Malabar Grey Hornbill *Ocyrceros griseus*, Malabar Barbet (Crimson-fronted Barbet) *Xantholaema malabarica*, Nilgiri Pipit *Anthus nilghiriensis*, Malabar Woodshrike *Tephrodornis sylvicola*, Flame-throated Bulbul (Ruby-throated Yellow Bulbul) *Pycnonotus gularis* (*Rubigula gularis*), Grey-headed Bulbul *Pycnonotus priocephalus*, Nilgiri Thrush *Zoothera neilgherriensis*,

White-bellied Blue Robin *Myiomela albiventris*, Nilgiri Blue Robin *Myiomela major*, Black-and-Orange Flycatcher (Black-and-rufous Flycatcher) *Ficedula nigrorufa*, Nilgiri Flycatcher *Eumyias albicaudatus*, White-bellied Blue-Flycatcher *Cyornis pallipes*, Wynaad Laughingthrush *Dryonastes (Garrulax) delesserti*, Black-chinned Laughingthrush *Strophocincla cachinnans*, Kerala Laughingthrush *Strophocincla fairbanki*, Indian Rufous Babbler *Turdoides subrufa*, Indian Broad-tailed Grass-warbler *Schoenicola platyururs*, Plain (Nilgiri) Flowerpecker *Dicaeum concolor*, Small Sunbird (Crimson-backed Sunbird) *Leptocoma minima (Nectarinia minima)*, Vigor's Sunbird *Aethopyga vigorsii*, Malabar White-headed Starling *Sturnia blythii*, White-bellied Treepie *Dendrocitta leucogastra*.

Amphibians

Western Ghats is home to at least 179 amphibian species as many more are being described and more than 80% of these are endemic to the rainforests of the mountains. The region is also home to many endemic caecilian species.

Fish, Insects

As of 2004, 288 freshwater fish species are listed from the Western Ghats, including 35 which are also known from brackish or marine water. Several new species have been described from the region since then.

Insects

Western Ghats is home to roughly 6,000 insect species. This includes 334 species of butterflies. The Western Ghats is home to 174 species of odonates (107 dragonflies and 67 damselflies), including 69 endemics. Most of the endemic odonates are closely associated with rivers and streams, while the non-endemics typically are generalists. There are several species of leeches found all along the Western Ghats.

Flora

Of the 7,402 species of flowering plants occurring in the Western Ghats, 5,588 species are native or indigenous and 376 are exotics naturalised and 1,438 species are cultivated or planted as ornamentals. Among the indigenous species, 2,253 species are endemic to India and of them, 1,273 species are exclusively confined to the Western Ghats.

UNESCO World Heritage Site

In 2006, India applied to the UNESCO for the Western Ghats to be listed as a protected World Heritage Site. In 2012, the following places are declared as World Heritage Sites: Kalakkad Mundanthurai Tiger Reserve, Shendurney Wildlife Sanctuary, Neyyar Wildlife Sanctuary, Peppara Wildlife Sanctuary, Periyar Tiger Reserve, Srivilliputtur Wildlife Sanctuary, Eravikulam National Park, Grass Hills National Park, Karian Shola National Park, Sathyamangalam Wildlife Sanctuary, Chinnar Wildlife Sanctuary, Silent Valley National Park, New Amarambalam Reserved Forest, Mukurthi National Park, Pushpagiri Wildlife Sanctuary, Brahmagiri Wildlife Sanctuary, Talakaveri Wildlife Sanctuary, Aralam Wildlife Sanctuary, Kudremukh National Park, Someshwara Wildlife Sanctuary, Kaas Plateau, Koyna Wildlife Sanctuary, Chandoli National Park and Radhanagari Wildlife Sanctuary.

Sources:

<http://www.gktoday.in/western-ghats/>

<http://whc.unesco.org/en/list/1342>

https://en.wikipedia.org/wiki/Western_Ghats

Map: <https://i2.wp.com/www.insightsonindia.com/wp-content/uploads/2012/07/western-ghats-detailed-map.jpg>

Family Facts

HesperIIDae: The Skippers

Butterflies belonging to the family HesperIIDae are known as the “skippers” because the butterflies exhibit a rapid, erratic or "skipping" flight pattern. The Skippers are not considered to be "true" butterflies, but are more closely related to the true butterflies than are the moths.

These butterflies are generally characterized by the following: 1) a large, hairy body; 2) a large head, at least as wide or wider than the thorax; 3) fully developed and functioning forelegs in both sexes; 4) small, pointed wings; 5) unique pattern of venation on the forewing; and 6) curved or hooked antennae tips. Males of many species possess a patch of scent scales on the forewing, called a stigma, useful in attracting females. Males may also have a folded portion of the forewing on the leading edge, called a costal fold, which encloses scent scales.

Many species of Skippers has a habit of basking in the sunlight with a unique posture, the forewings being open only half way and the hindwings open fully. This gives them a "fighter-jet" like appearance. They are largely brown, orange and tawny.

Many species have very long proboscis which makes it possible for them to get nectar from flowers with long tubular corolla. Many fly at dawn or dusk but others fly during the daytime.

Eggs are tiny (less than the width of the head of a pin!) and vary in appearance, but often are dome-shaped. Caterpillars generally are green with tapered bodies, often live in shelters constructed with leaves and silk. Pupae hang in loose cocoons and may have a silk girdle.

Brown Awl *Badamia exclamations* (Fabricius, 1775)

UN by Raju Kasambe

Wing span: 50–55 mm.

Larval Host Plants:

Combretum albidum, *Combretum latifolium*, and *Combretum ovalifolium*, *Terminalia bellerica*, *Terminalia catappa* (Family Combretaceae), *Hiptage benghalensis* (Family Malpighiaceae), *Linociera purpurea*, *Ficus* spp.

Distribution:

Throughout India.

Orange Awlet *Bibasis jaina* (Moore, 1865)



UN and UP by Raju Kasambe

Wing span: 60–70 mm.

Larval Host Plants:

Combretum extensum (Family Combretaceae), *Hiptage benghalensis* (Family Malpighiaceae).

Distribution: Subspecies:

B. j. fergusonii de Niceville, [1894]: Maharashtra to Kerala.

Pale Green Awlet *Burara gomata* (Moore, [1866])

(Syn. *Bibasis gomata* Moore, 1866)



UN by Anila Manalil

Wing span: 50–65 mm

Larval Host Plants:

Heptapleurum venulosum (Family Araliaceae).

Distribution: Subspecies:

B. g. kanara (Evans, 1926): Goa to Kerala.

Orange-tailed Awlet *Bibasis sena* (Moore, 1865)

UN by Dr. Amol Patwardhan

Wing span: 42–50 mm.

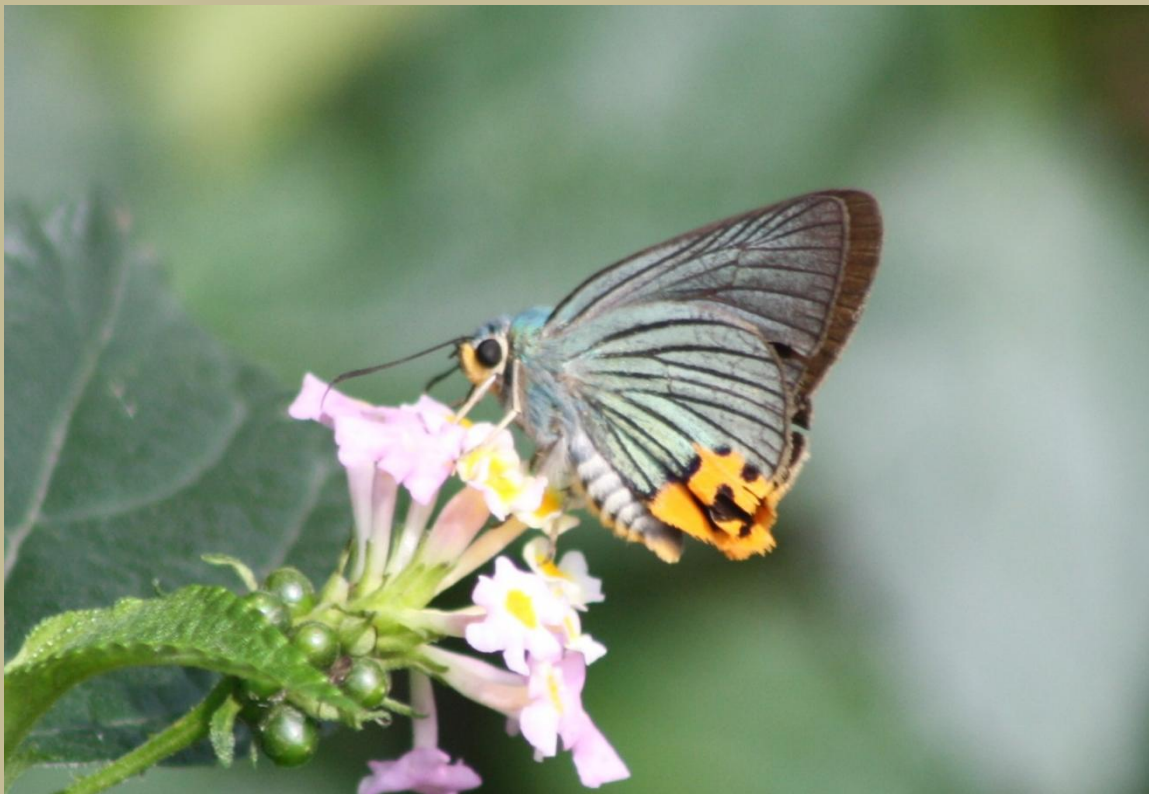
Larval Host Plants:

Combretum latifolium, *Combretum extensum* (Family Combretaceae), *Hiptage benghalensis* (Malpighiaceae).

Distribution: Subspecies:

B. s. sena (Moore, [1866]): Maharashtra to Madhya Pradesh and south to Kerala, Himachal Pradesh to N.E. India; Andaman & Nicobar Is.

Indian Awlking *Choaspes benjaminii* (Guérin-Meneville, 1843)



UN by Raju Kasambe

Wing span: 50–60 mm.

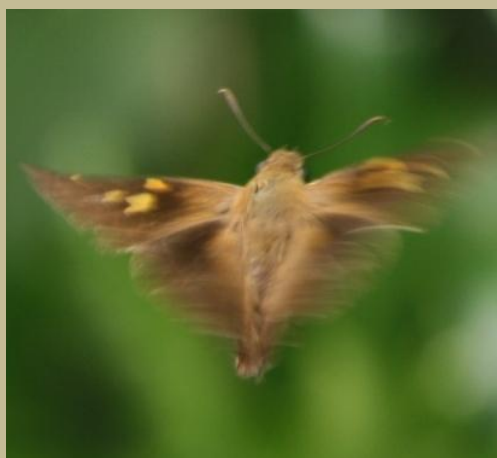
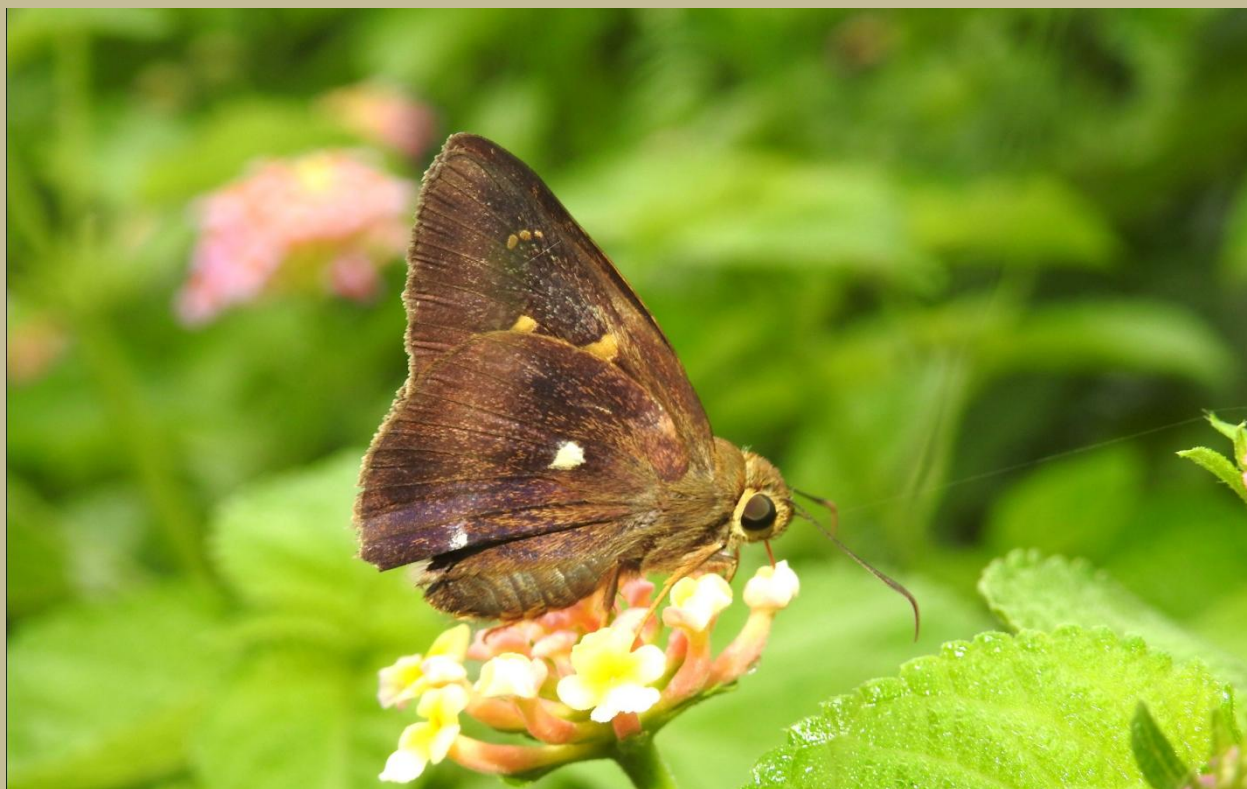
Larval Host Plants:

Meliosma pungens, *Sabia campanulata* (Family Sabiaceae).

Distribution: Subspecies:

C. b. benjaminii (Guerin-Meneville, 1843): Karnataka to Kerala.

Common Awl *Hasora badra* (Moore, 1857)



UN and UP by Raju Kasambe

Wing span: 50–55 mm.

Larval Host Plants:

Derris uliginosa, *Pongamia* spp. (Family Fabaceae).

Distribution:

H. b. badra (Moore, [1858]): Maharashtra to Kerala; North Bihar to N.E. India; Andaman & Nicobar Is.

Common Banded Awl *Hasora chromus* (Cramer, 1780)

UN by Raju Kasambe

Wing span: 45–50 mm.

Larval Host Plants: Castor-oil-plant *Ricinus communis* (Family Euphorbiaceae), *Derris scandens*, Pongam Tree *Pongamia pinnata* (Family Fabaceae), *Trichilia connaroides* (Family Meliaceae).

Distribution:

H. c. chromus (Cramer, [1780]): Throughout India and Andaman & Nicobar Is.

White Banded Awl *Hasora taminatus* (Hübner, 1818)



UN by Tarun Karmakar

Wing span: 45–55 mm.

Larval Host Plants:

Derris scandens (Family Fabaceae).

Distribution: Subspecies:

H. t. taminatus (Huebner, 1818): Karnataka to Kerala.

Plain Banded Awl *Hasora vitta* (Butler, 1870)



UN by Dattaprasad Sawant

Wing span: 45–55 mm.

Larval Host Plants:

Millettia extensa, *M. pallida*, *Pongamia pinnata* (Family Fabaceae).

Distribution: Subspecies:

H. v. indica Evans, 1932: Sikkim to N.E. India; Goa to Kerala.

Pygmy Scrub Hopper *Aeromachus pygmaeus* (Fabricius, 1775)



UN by Anila Manalil

Wing span: 20–22 mm.

Larval Host Plants:

Data deficient.

Distribution:

Maharashtra to Kerala; N.E. India.

Bush Hopper *Ampittia dioscorides* (Fabricius, 1793)

Clockwise from top left: UN by Jeevan Jose, UP Male by Raju Kasambe, UP Female by Raju Kasambe

Wing span: 22–28 mm.

Larval Host Plants:

Rice *Oryza sativa*, grass spp.
(Family Poaceae).

Distribution:

A. d. dioscorides (Fabricius, 1793): Maharashtra east to West Bengal and south to Kerala; Himachal Pradesh to N.E. India.

Vindhyan Bob *Arnetta vindhiana* (Moore, 1883)



UN WSF and UN DSF by Raju Kasambe

Wing span: 25–32 mm.

Larval Host Plants:

Data deficient.

Distribution: Subspecies:

A. v. nilgiriana (Moore, 1883): Tamil Nadu to Kerala.

Subspecies:

A. v. vindhiana (Moore, 1883): Rajasthan to Tamil Nadu; Madhya Pradesh.

Paintbrush Swift *Baoris farri* (Moore, 1878)



UN and UP by Raju Kasambe

Wing span: 43–48 mm.

Larval Host Plants:

Ochlandra travancorica, *Ochlandra scriptoria*, *Bambusa striata* and *Bambusa wamin*.

Distribution: Subspecies:

B. f. farri (Moore, 1878): Maharashtra southwards to Kerala and eastwards to W. Bengal; Uttarakhand to N.E. India.

Bevan's Swift *Pseudoborbo bevani* (Moore, 1878)



UN and UP by Blaise Pareira

Wing span: 32–36 mm.

Larval Host Plants:

Imperata cylindrica, *Paspalum conjugatum*, *Saccharum* spp. (Family Poaceae).

Distribution:

Gujarat east to W. Bengal and southwards to Kerala; Jammu & Kashmir to N.E. India.

Rice Swift *Borbo cinnara* (Wallace, 1866)

UN and UP by Raju Kasambe

Wing span: 30–36 mm.

Larval Host Plants:

Andropogon spp., *Cymbopogon* sp., *Eragrostis* sp., *Ischaemum* sp., Rice *Oryza* sp., *Oryza sativa*, *Pennisetum* sp., *Setaria barbata*, *S. glauca*, *S. pumila*, Grass spp. *Axonopus compressus*, *Rottboellia cochinchinensis*, *Brachiaria mutica* (Family Poaceae).

Distribution:

Throughout India except Jammu & Kashmir.

Wax Dart *Cupitha purreea* (Moore, 1877)



UN and UP by Subhajit Mazumder

Wing span: 28–33 mm.

Larval Host Plants:

Combretum ovalifolium, *C. indicum* (Syn. *Quisqualis indica*), *Combretum* spp., *Terminalia paniculata*, *Terminalia bellirica* (Family Combretaceae).

Distribution:

Maharashtra to Kerala; Jharkhand; Sikkim to N.E. India.

Indian Ace *Halpe hindu* Evans, 1937



UN by Kishen Das



UP by Hemant Ogale

Wing span: 30–36 mm.

Larval Host Plants: Bamboo spp. (Family Poaceae).

Distribution: Subspecies:

H. h. hindu Evans, 1937: Karnataka; Kerala; Tamil Nadu.

Moore's Ace *Halpe porus* (Mabille, 1877)



UN and UP by Yuwaraj Gurjar

Wing span: 32 mm.

Larval Host Plants:

Bamboo spp. (Family Poaceae).

Distribution:

Maharashtra to West Bengal and southward to Kerala; Uttarakhand to N.E. India;
Andaman & Nicobar Is.

Chestnut Bob *Iambrix salsala* (Moore, 1865)



UN and UP by Raju Kasambe

Wing span: 26–30 mm.

Larval Host Plants:

Bamboo and grass spp. (Family Poaceae).

Distribution: Subspecies:

I. s. luteipalpis (Ploetz, 1886). Gujarat to Kerala.

Common Redeye *Matapa aria* (Moore, 1866)



UN by Raju Kasambe

Wing span: 40–55 mm.

Larval Host Plants:

Bamboo spp. *Bambusa striata*, *B. arundinacea*, *Ochlandra travancorica* and *Ochlandra scriptoria* (Family Poaceae).

Distribution:

Gujarat to West Bengal and southward to Kerala; Delhi; Uttarakhand to N.E India.

Giant Redeye *Gangara thyrsis* (Fabricius, 1775)

UN by Raju Kasambe

Wing span: 70–76 mm.

Larval Host Plants:

Palms and canes including *Cocos nucifera*, *Caryota urens*, *Calamus pseudotenuis*, *Calamus rotang*, *Calamus thwaitesii*, *Phoenix loureirii*, *P. acaulis*, *Licuala chinensis*, *L. grandis* and *Phoenix humilis* (Family Arecaceae). Also *Zingiber officinale* (Family Zingiberaceae).

Distribution:

G. t. thyrsis (Fabricius, 1775): Maharashtra to Kerala; Andhra Pradesh; to N.E. India, Himachal Pradesh; Andaman & Nicobar Is.

Restricted Demon *Notocrypta curvifascia* (Felder & Felder, 1862)

UN by Pranav Gokhale



UP by Raju Kasambe

Wing span: 38–50 mm.

Larval Host Plants:

Costus speciosus, *Curcuma decipiens*, *Kaempferia rotunda*, *Zingiber casumunar* (Ginger), *Z. montanum*, *Z. officinale* and members of the Families Zingiberaceae and Musaceae.

Distribution:

N. c. curvifascia (C. & R. Felder, 1862): Andaman & Nicobar Is. (Andamans); Maharashtra to Kerala; Uttarakhand to N.E. India.

Common Banded Demon *Notocrypta paralysos* (Wood-Mason & de Nicéville, 1881)



UP by Jeevan Jose

Wing span: 30–40 mm.

Larval Host Plants: Ginger and turmeric species of Family Zingiberaceae.

Distribution: Subspecies:

N. p. mangla Evans, 1939: Maharashtra to Kerala; Andhra Pradesh.

Conjoined Swift *Pelopidas conjuncta* (Herrich-Schäffer, 1869)

UP and UN by Raju Kasambe

Wing span: 45–52 mm.

Larval Host Plants:

Grass spp. *Andropogon* spp., *Bambusa* sp., *Oryza sativa* (Rice), *Saccharum officinarum* (Sugarcane), *Sorghum* spp. (Jowar), *Zea mays* (Maize), and *Rottboellia cochinchinensis* (Itchgrass).

Distribution: Subspecies:

P. c . narooa (Moore,1878): Gujarat to Kerala and Jharkhand.

Variable Swift *Pelopidas mathias* (Fabricius, 1798)
(Syn. Small Branded Swift)



UN and UP by Raju Kasambe

Wing span: 32–38 mm.

Larval Host Plants: *Oryza sativa* (Rice), *Cymbopogon nardus* (Citronella Grass), *Imperata cylindrica* (Blady Grass), *Saccharum officinarum* (Sugarcane).

Distribution:

Throughout India including Andaman & Nicobar Islands (Central Nicobars).

Coon *Psolos fuligo* (Mabille, 1876)



UP by Jeevan Jose



UN by Parag Rangnekar

Wing span: 36–46 mm.

Larval Host Plants:

Maranta arundinacea, *Schumannianthus virgatus*, *Stachyphrynium spicatum*
(Family Marantaceae).

Distribution:

P. f. subfasciatus (Moore, 1878): Karnataka to Kerala; N.E. India.

Indian Palm Bob *Suastus gremius* (Fabricius, 1798)



UN and UP by Raju Kasambe

Wing span: 32–45 mm.

Larval Host Plants:

Calamus spp., *Caryota urens*, *Cocos nucifera*, *Licuala grandis*, *Phoenix acaulis*, *P. lourierii* (Family Arecaceae).

Distribution:

S. g. gremius (Fabricius, 1798): Throughout India.

Common Grass Dart *Taractrocera maevius* (Fabricius, 1793)



UN and UP by Ashwatha K.N.

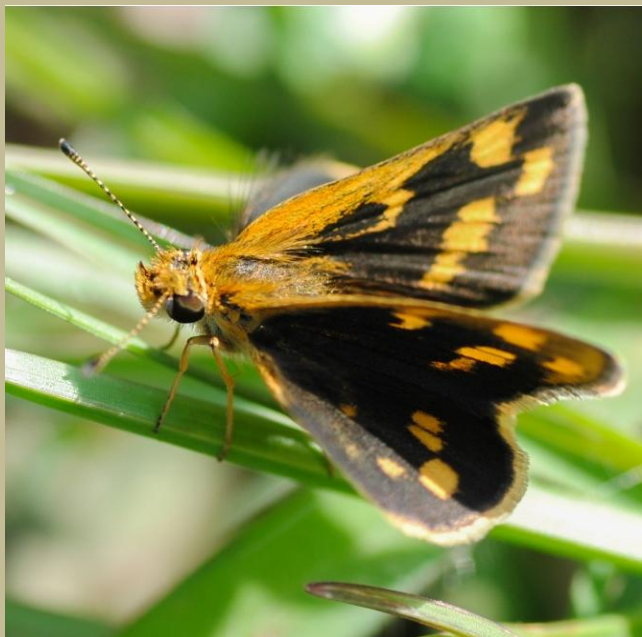
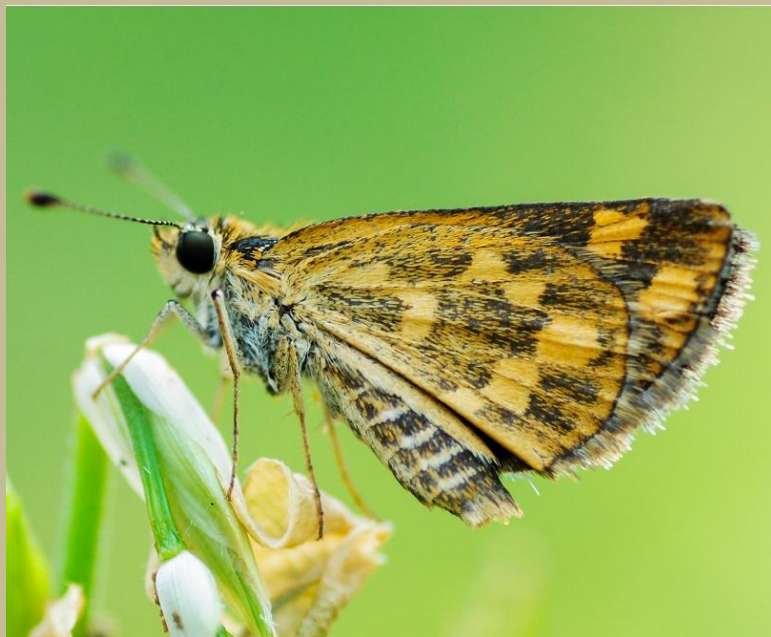
Wing span: 22–28 mm.

Larval Host Plants:

Grass species, including rice, *Oryza sativa*.

Distribution:

T. m. sagara (Moore, [1866]): Gujarat to Kerala; Madhya Pradesh; W. Bengal; Jammu & Kashmir to N.E. India.

Tamil Grass Dart *Taractrocera ceramas* (Hewitson, 1868)

UN and UP both by Dattaprasad Sawant

Wing span: 23–30 mm.

Larval Host Plants:

Grass species, including rice, *Oryza sativa*.

Distribution:

Subspecies: *T. c. ceramas* (Hewitson, 1868): Karnataka, Kerala and Andhra Pradesh.

Subspecies: *T. c. media* Evans, 1934: Goa and Karnataka.

Subspecies: *T. c. nicevillei* Watson, 1893: Maharashtra.

Subspecies: *T. c. oberthueri* Elwes & Edwards, 1897: Tamil Nadu (Anaimalai Hills).

Dark Palm Dart *Telicota bambusae* (Moore, 1878)

(Syn. *Telicota aneilla bambusae*)



UN and UP by Raju Kasambe

Wing span: 33–36 mm.

Larval Host Plants:

Calamus spp., *Cocos nucifera* (Family Arecaceae), grass species, such as *Imperata cylindrica*, *Oryza sativa*, *Paspalum urvillei*, *Sorghum halepense*, *Saccharum* spp., *Ochlandra travancorica*, *Bambusa striata* and *Bambusa wamin* (Family Poaceae).

Distribution:

Throughout India except Rajasthan.

Common Palm Dart *Telicota colon* (Fabricius, 1775)

(Syn. Pale Palm Dart)



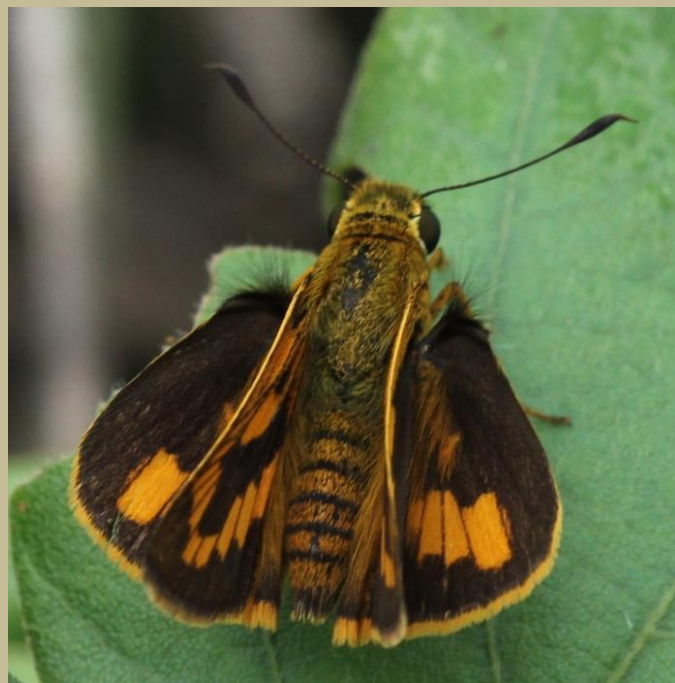
UN and UP by Divakar Thombre

Wing span: 32–36 mm.**Larval Host Plants:** Sugarcane *Saccharum officinarum*, bamboo species including *Bambusa striata* and *Ochlandra travancorica*.**Distribution:***T. c. colon* (Fabricius, 1775): Gujarat to W. Bengal and southwards to Kerala; Delhi to Uttar Pradesh; Uttarakhand to Sikkim.

Plain Palm Dart *Cephrenes acalle* (Höppfer, 1874)



UN by Raju Kasambe



UP by Chinmayi S.K.

Wing span: 42–44 mm.

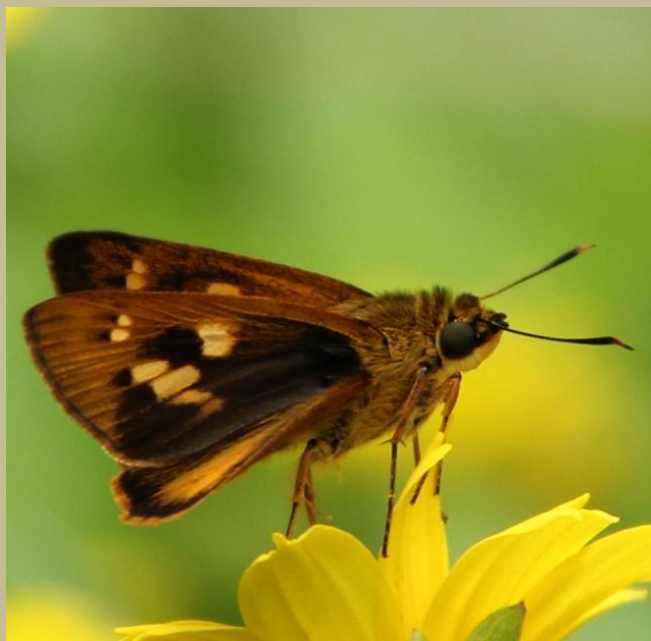
Larval Host Plants:

Palm sp. (Arecaceae) especially *Cocos nucifera* (Coconut) and *Calamus*

Distribution: Subspecies:

C. c. oceanica (Mabille, 1904): Andaman & Nicobar Is. (Andamans), Sikkim to N.E. India; west coast of India.

Madras Ace *Thoressa honorei* (De Nicéville, 1887)



UP and UN both Anila Manalil

Wing span: 30–38 mm.

Larval Host Plants:

Bamboo (Family Poaceae).

Distribution:

Goa to Kerala.

Endemicity:

Endemic to Western Ghats.

Grass Demon *Udaspes folus* (Cramer, 1775)

UN and UP by Raju Kasambe

Wing span: 40–48 mm.

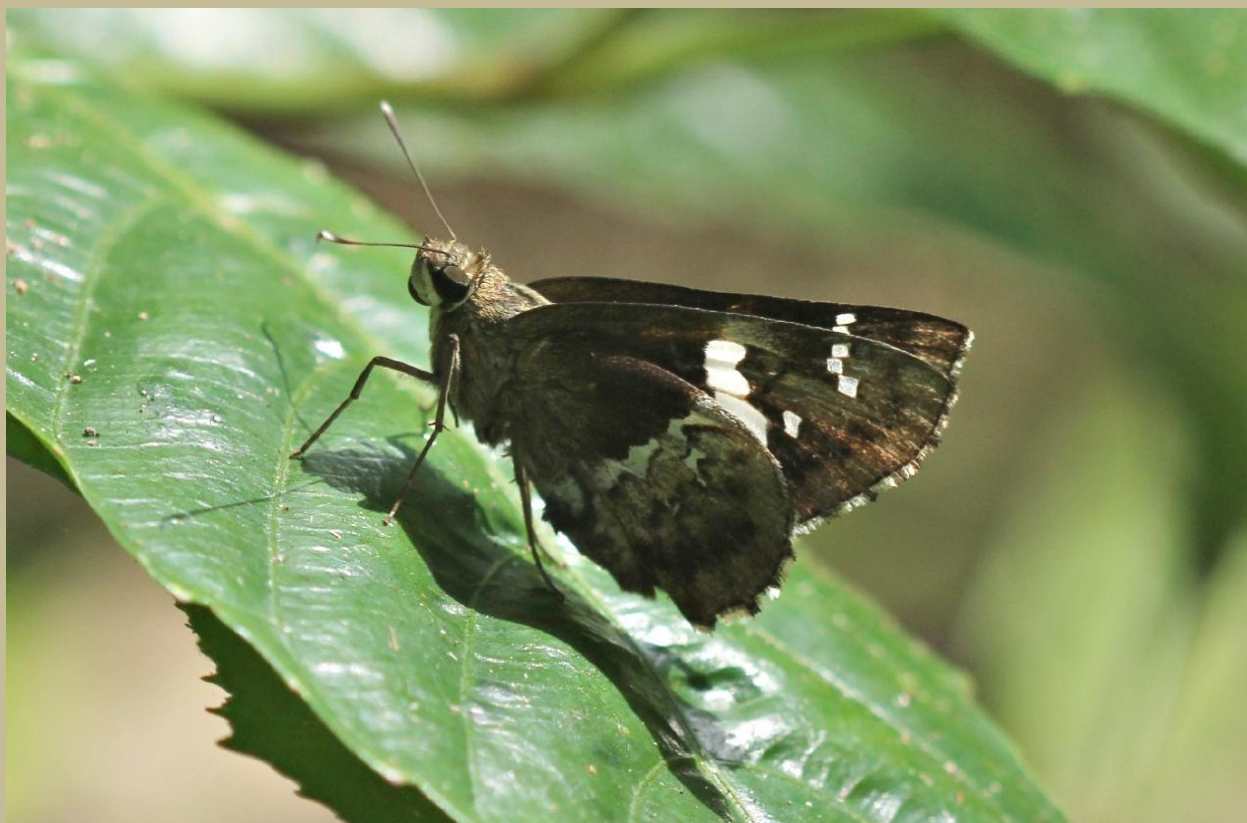
Larval Host Plants:

Species of ginger and turmeric including *Curcuma aromatica*, *C. decipiens*, *C. pseudomontana*, *Hedychium* spp., *Zingiber* sp. (Family Zingiberaceae). Also on Grasses.

Distribution:

Gujarat to West Bengal and south to Kerala; Himachal Pradesh to N. E. India.

Tree Flitter *Hyarotis adrastus* (Stoll, 1780)



UN by Chinmayi S.K.

Wing span: 38–48 mm.

Larval Host Plants:

Palm spp., *Phoenix acualis* (Family Arecaceae).

Distribution:

H. a. praba (Moore, [1866]): Himachal Pradesh to N. E. India; Andaman Is.; Goa to Kerala.

Ceylon Dartlet *Oriens goloides* (Moore, 1881)

(Syn. Indian Dartlet)



UN by Jeevan Jose



UP by Raju Kasambe

Wing span: 24–28 mm.

Larval Host Plants:

Grass species namely, *Axonopus compressus* and *Oplismenus composites* (Family Poaceae)

Distribution:

Maharashtra to Kerala; Sikkim to N.E. India.

Golden Angle *Caprona ransonnetti* (Felder, 1868)



Clockwise from left: Male UN, DSF and WSF by Raju Kasambe

Wing span: 35–45 mm.

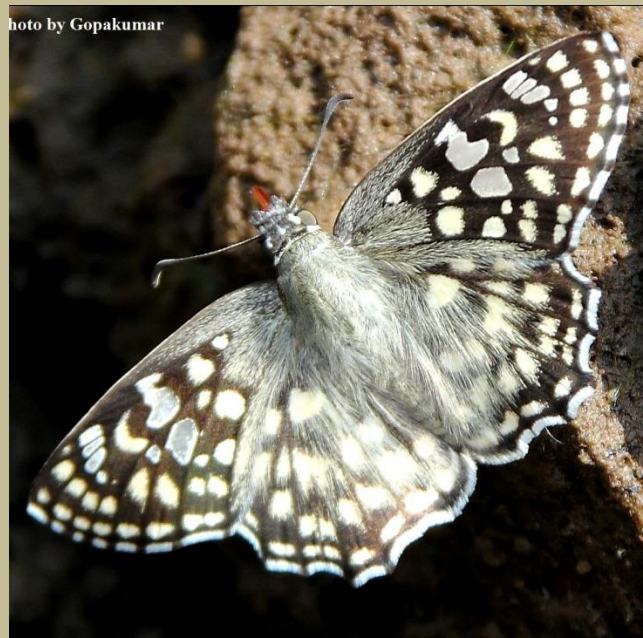
Larval Host Plants:

Helicteres isora (Family Sterculiaceae)

Distribution:

C. r. potiphera Hewitson, 1873: Gujarat east to Jharkhand and South to Kerala.

Spotted Angle *Caprona agama* (Moore, 1857)



UN and UP by Gopakumar

Wing span: 30–50 mm.

Larval Host Plants:

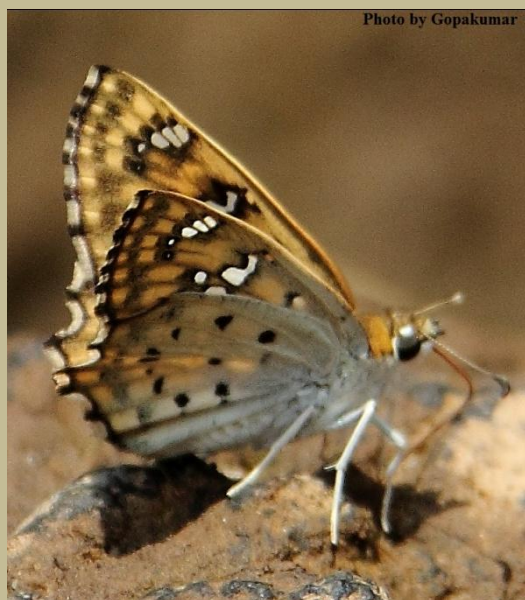
Data deficient.

Distribution:

C. a. agama (Moore, [1858]): Maharashtra east to Jharkhand and southward to Kerala; Uttarakhand to N.E. India.

Evans' Angle *Caprona alida* (De Nicéville, 1891)

(Syn. Yellow Spotted Angle)



UN and UP by Gopakumar

Wing span: 30–50 mm.

Larval Host Plants:

Data deficient.

Distribution: Subspecies:

C. a. vespa Evans, 1949: Tamil Nadu to Madhya Pradesh and Odisha.

Malabar Flat *Celaenorrhinus ambareesa* (Moore, 1866)
(Syn. Malabar Spotted Flat)



UP by Raju Kasambe

Wing span: 45–55 mm.

Larval Host Plants:

Carvia callosa, *Eranthemum purpurescens*, *E. roseus* (Family Acanthaceae).

Distribution:

Peninsular India, south from Gujarat and Madhya Pradesh.

Common Spotted Flat *Celaenorrhinus leucocera* (Kollar, 1844)

UP by Raju Kasambe

Wing span: 45–55 mm.

Larval Host Plants:

Asystasia gangetica, *Carvia callosa*, *Ecbolium linguistrinum*, *Eranthemum roseus*, *E. pulchellum*, *Strobilanthes angustifrons*, *Thelepaepale ixiocephala*, *Nilgirianthus heyneanus*, *N. barbatus* (Family Acanthaceae).

Distribution:

Gujarat eastwards to West Bengal and southwards Kerala; Jammu and Kashmir to N.E India; Andaman & Nicobar Is.

Fulvous Pied Flat *Pseudocoladenia dan* (Fabricius, 1787)



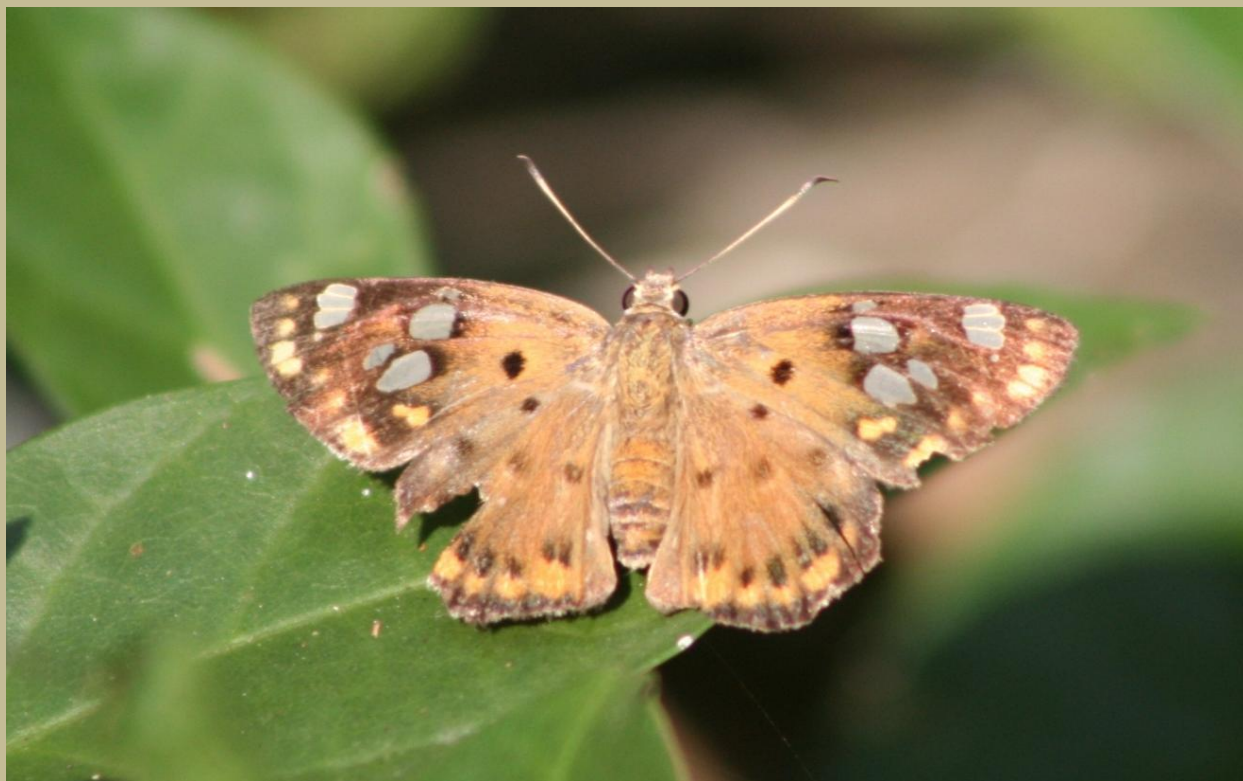
UN by Raju Kasambe

Wing span: 40–46 mm.

Larval Host Plants: *Achyranthes aspera* (Family Amaranthaceae).

Distribution: Subspecies:

P. d. dan (Fabricius, 1787): Gujarat to Kerala; Andhra Pradesh.

Tricoloured Pied Flat *Coladenia indrani* (Moore, 1866)

UN by Raju Kasambe

Wing span: 40–46 mm.

Larval Host Plants: *Mallotus philippinensis* (Family Euphorbiaceae), *Desmodium* sp. (Family Fabaceae), *Xylia dolabriformis* (Family Mimosaceae), *Grewia microcos* (Family Tiliaceae).

Distribution: Subspecies:

C. i. indra Evans, 1926: Gujarat eastwards to West Bengal and southward to Kerala.

Common Yellow-breasted Flat *Gerosis bhagava* (Moore, 1866)



UP by Tarun Karmakar

Wing span: 35–45 mm.

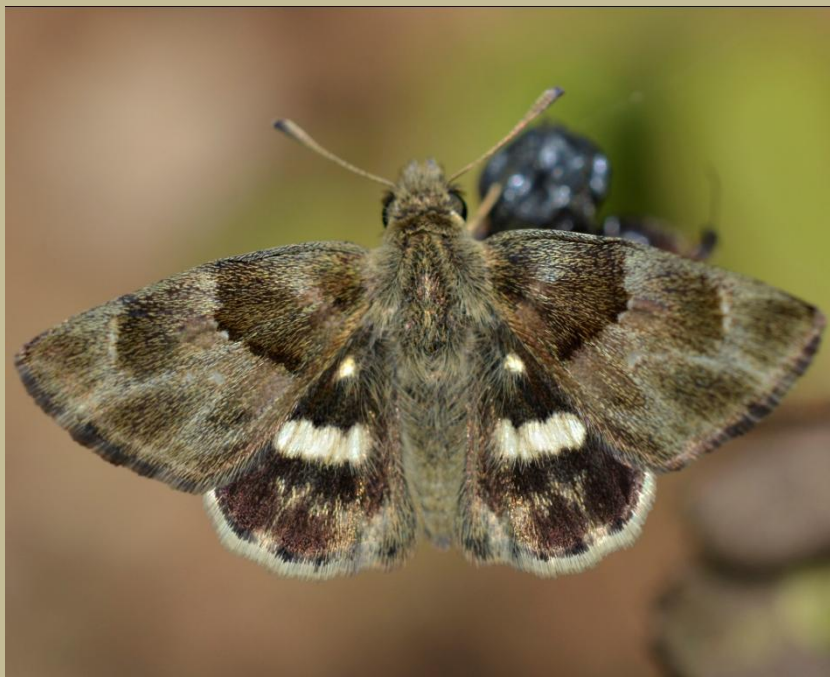
Larval Host Plants:

Dalbergia lanceolaria (Family Fabaceae).

Distribution: Subspecies:

G. b. bhagava (Moore, [1866]): Goa to Jharkhand and south to Kerala; Sikkim to N.E. India.

African Marbled Skipper *Gomalia elma* (Trimen, 1862)



UN and UP by Manidip Mandal

Wing span: 25–30 mm.

Larval Host Plants:

Abutilon indicum (Family Malvaceae).

Distribution:

G. e. albofasciata Moore, 1879: Himachal Pradesh; Maharashtra to Kerala and Telangana.

Chestnut Angle *Odontoptilum angulatum* (C. & R. Felder, 1862)

UP by Dhaval Momaya

Wing span: 40–45 mm.

Larval Host Plants:

Ceiba sp. (Family Bombacaceae), *Hibiscus tiliaceus*, *Urena lobata* (Family Malvaceae), *Allophyllus cobbe* (Family Sapindaceae).

Distribution:

O. a. angulatum (C. & R. Felder, 1862): Maharashtra to Kerala; Himachal Pradesh to N.E. India.

Common Small Flat *Sarangesa dasahara* (Moore, 1866)

UP by Raju Kasambe

Wing span: 26–35 mm.

Larval Host Plants:

Asystasia spp., *Blepharis asperrima* (Family Acanthaceae).

Distribution: Subspecies:

S. d. adona Evans, 1949: Rajasthan to Odisha and south to Andhra Pradesh.

Subspecies:

S. d. davidsoni Swinhoe, 1912: Gujarat to Kerala.

Spotted Small Flat *Sarangesa purendra* (Moore, 1882)

UP by Vinayraj

Wing span: 25–35 mm.

Larval Host Plants:

Asystasia spp., *Blepharis* spp. (Family Acanthaceae).

Distribution: Subspecies:

S. p. hopkinsi Evans, 1921: Karnataka; Tamil Nadu.

Subspecies:

S. p. pandra Evans, 1949: Kerala to Rajasthan.

Indian Skipper *Spialia galba* (Fabricius, 1793)



UP and UN both by Dattaprasad Sawant

Wing span: 20–27 mm.

Larval Host Plants:

Hibiscus spp., *Sida rhombifolia* (Family Malvaceae), *Waltheria indica*, *Melochia corchorifolia* (Family Sterculiaceae).

Distribution:

Throughout India.

Large Snow Flat *Tagiades gana* (Moore, 1866)

(Syn. Suffused Snow Flat)



UP by Anila Manalil

Wing span: 45–50 mm.

Larval Host Plants: *Dioscorea oppositifolia*, *D. alata* (Family Dioscoreaceae).

Distribution: Subspecies:

T. g. silvia Evans, 1934: Maharashtra to Kerala. Chhota Nagpur?

Suffused Snow Flat *Tagiades jepetus* (Stoll, 1781)

(Syn. Common Snow Flat)



UP by Ayan Chakraborty

Wing span: 45–50 mm.

Larval Host Plants:

Dioscorea oppositifolia, *D. alata* (Family Dioscoreaceae).

Distribution:

Subspecies: *T. j. obscurus* Mabille, 1876: Gujarat to Kerala.

Water Snow Flat *Tagiades litigiosa* (Moeschler, 1878)

UP by Raju Kasambe

Wing span: 37–44 mm.

Larval Host Plants:

Dioscorea oppositifolia, *Dioscorea alata* (Family Dioscoreaceae) and *Smilax* sp. (Family Smilacaceae).

Distribution: Subspecies:

T. l. litigiosa Fruhstorfer, 1910: Himachal Pradesh to N.E. India; Maharashtra to Andhra Pradesh and Kerala; Jharkhand.

Black Angle *Tapena thwaitesi* (Moore, 1881)



DSF UP by Raju Kasambe



WSF UP by Yuwaraj Gurjar

Wing span: 40 mm.

Larval Host Plants:

Dalbergia latifolia (Family Fabaceae)

Distribution: Subspecies:

T. t. thwaitesi Moore, [1881]: Gujarat to Kerala and Andhra Pradesh.

Family Facts

Family Papilionidae: Swallowtails

The Swallowtails are large butterflies having tails at the rear of the hindwing. They are often black and yellow in color.

Swallowtails are generally characterized by the following: 1) have tails at the rear of the hindwing; 2) medium to large in size; 3) unique pattern of wing veination on the wings; and 3) fully developed and functioning forelegs in both sexes.

Other interesting traits of Swallowtails include a behavior called hill topping, in which males and females congregate at the tops of slopes or ridges in their effort to locate a mate. Swallowtails continue to flutter their wings while taking nectar from flowers, unlike other butterflies. This behavior is believed to help stabilize the large butterflies which otherwise might unbalance the flower, causing it to tip or bend.

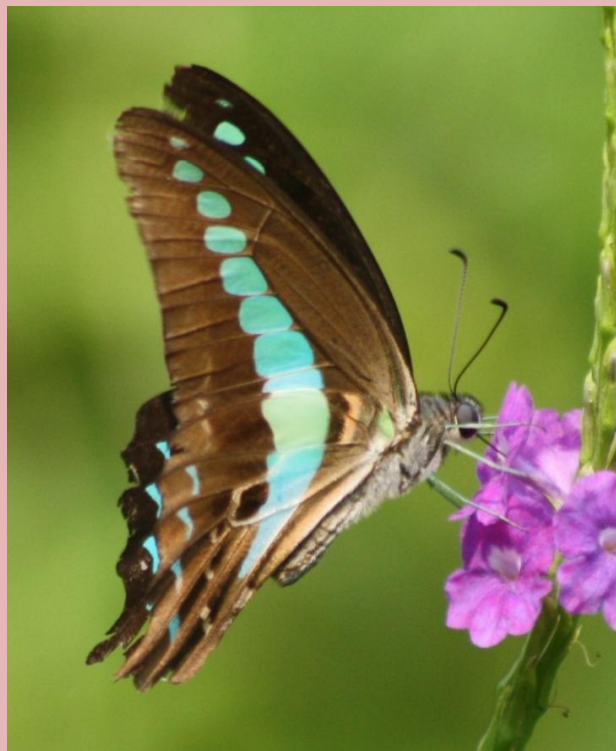
Eggs of Swallowtails are round and green. The young caterpillars of Swallowtails often look like a bird dropping while older caterpillars are often greenish and marked with large eyespots. They are equipped with an osmeterium, a Y-shaped gland located behind the head which pops out and emit a pungent chemical to ward off potential predators. Swallowtail pupae often have both a cremaster and a silk girdle. Most beautiful (like Peacocks), threatened (like Kaiser-i-Hind, Bhutan Glory) and largest of the butterflies (like the Birdwings) belong to this family. These are much coveted as trophies and hence are illegally traded for their beauty.



Common Mormon showing 'Osmetorium' by Dr. Javant Wadatkar

Southern Bluebottle *Graphium teredon* (C. & R. Felder, 1865)

UP by K. Mohan Raj



UN by Raju Kasambe

Wing span: 80–90mm.

Larval Host Plants:

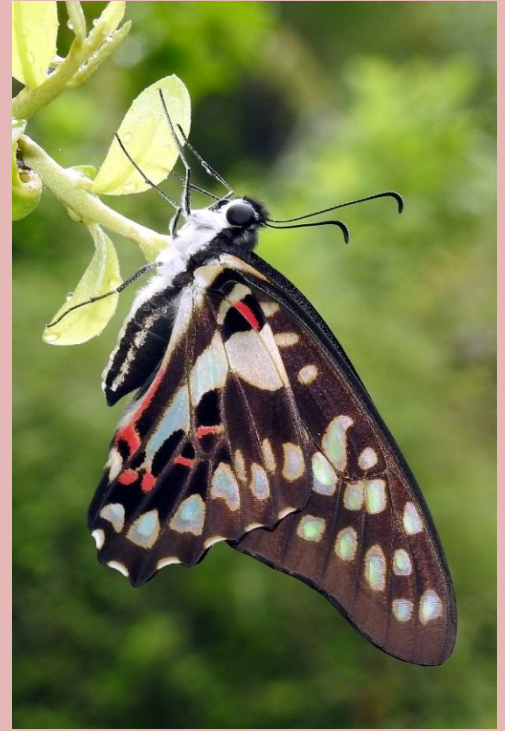
Alseodaphne semecarpifolia, *Cinnamomum camphora*, *Cinnamomum macrocarpum*, *Cinnamomum malabathrum*, *Litsea chinensis*, *Polyalthia longifolia*, *Miliusa tomentosa*, *Persea macrantha* and *Michelia doltospa*.

Distribution: W. Ghats as far north as Gujarat; ? Madhya Pradesh.

Note: Previously treated as Common Bluebottle *Graphium sarpedon* (Linnaeus, 1758).

Common Jay *Graphium doson* (C. & R. Felder, 1864)

UP by School of Ecology and Conservation



UN by Raju Kasambe

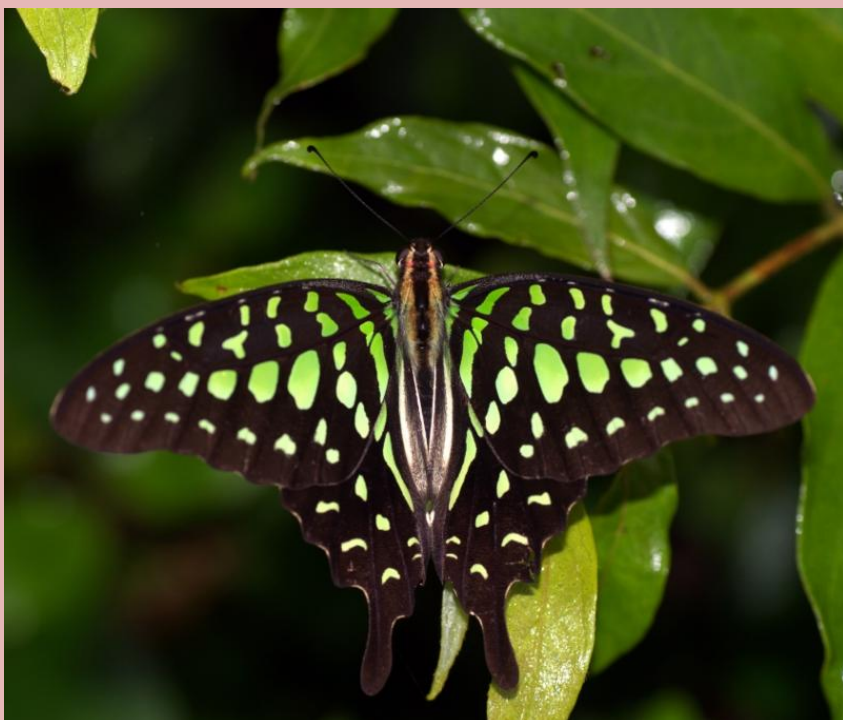
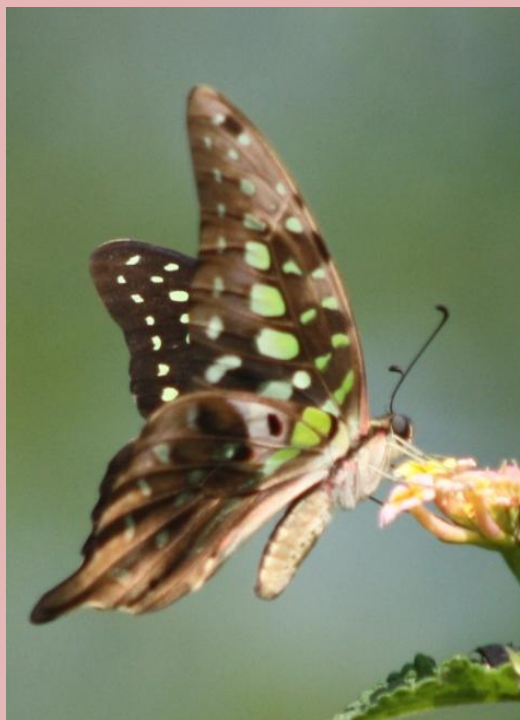
Wing span: 70–80mm.

Larval Host Plants:

Plants of the families Annonaceae, Lauraceae, Magnoliaceae such as *Annona lawii*, *Cinnamomum macrocarpum*, *Magnolia grandiflora*, *Michelia champaca*, *Milliusa tomentosum* and *Polyalthia longifolia*.

Distribution: Subspecies:

G. d. eleius (Fruhstorfer, 1907): S. India to W. Bengal.

Tailed Jay *Graphium agamemnon* (Linnaeus, 1758)

UN by Raju Kasambe; UP by Divakar Thombre

Wing span: 85–100mm.

Larval Host Plants:

Polyalthia longifolia, *Polyalthia cerasoides*, *Annona squamosa*, *Annona reticulata*, *Annona discolor*, *Annona muricata*, *Goniothalamus cardiopetalus*, *Mitrephora heyneana* and *Uvaria narum* of the family Annonaceae, *Michelia doltospa*, *Michelia champaca*, *Milliusa tomentosum*, *Cinnamomum* spp., and *Artabotrys hexapetalus*.

Distribution: Subspecies:

G. a. menides (Fruhstorfer, 1904): Kerala to Gujarat and W. Bengal.

Fivebar Swordtail *Pathysa antiphates* (Cramer, 1775)



UN by Anila Manalil

Wing span: 80–95mm.

Larval Host Plants:

Annona elegans, *A. lawii*, *A. zeylanica*, *Uvaria sp.* (Family Annonaceae).

Distribution: Subspecies:

G. a. alcibiades (Fabricius, 1787): Western Ghats as far north as Goa.

Spot Swordtail *Graphium nomius* (Esper, 1799)

UN by Raju Kasambe

Wing Span: 75-90mm.

Larval Host Plants:

Miliusa tomentosum, *Miliusa velutina*, *Polyalthia longifolia* and *P. cerasoides* (Family Anonaceae).

Distribution: Subspecies:

G. n. nomius (Esper, 1799): Delhi; Rajasthan; Sikkim; Uttarakhand; Uttar Pradesh; Bihar; throughout drier parts of Southern India to W. Bengal.

Common Mime *Papilio clytia*, Linnaeus, 1758**(Syn. *Chilasa clytia*)**Form *clytia*. by Jeevan JoseForm *dissimilis* by J.M. Garg**Wing span:** 90–100mm.**Larval Host Plants:**

Alseodaphne semecarpifolia, *Cinnamomum camphora*, *Cinnamomum macrocarpum*, *Cinnamomum verum*, *Litsea chinensis*, *Litsea deccansis*, *Tetranthera apetala* (family Lauraceae).

Distribution: Subspecies:

P. c. clytia Linnaeus, 1758: Throughout India except Jammu & Kashmir, Punjab and Rajasthan, below 2750 m elevation.

Common Mormon *Papilio polytes* (Linnaeus, 1758)

Male by Varun Omanakuttan

Female form *romulus* by Jeevan JoseFemale form *stichius* by Jeevan JoseFemale form *stichius* by Raju Kasambe

Wing span: 90–100mm.

Larval Host Plants:

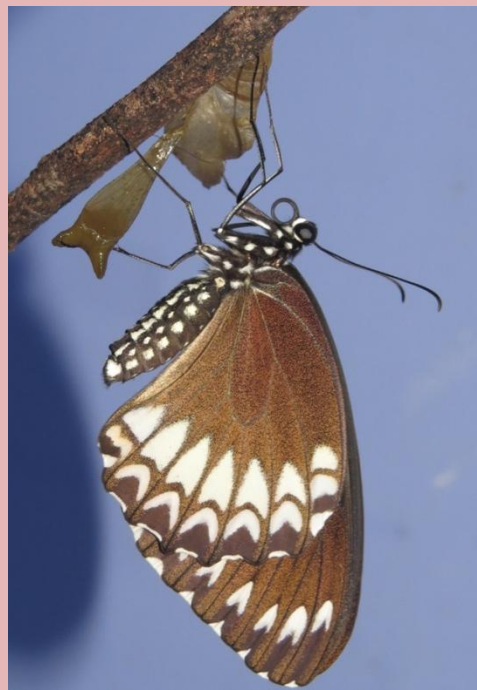
Aristolochia bracteolata, *A. indica*, *A. tagala*, *A. griffithi*, *A. elegans*, *Thottea siliquosa* (family Aristolochiaceae).

Distribution: Subspecies:

P. p. romulus Cramer, [1775]: Throughout India below 2000 m elevation.

Malabar Raven *Papilio dravidarum* (Wood-Mason, 1880)

UP by Anila Manalil



UN by Vinayaraj

Wing span: 80–120mm.

Larval Host Plants:

Glycosmis pentaphylla, *Toddalia asiatica* and *Clausena heptaphylla* (family Rutaceae).

Distribution:

Western Ghats as far north as Goa.

Endemicity:

Endemic to Western Ghats.

Red Helen *Papilio helenus* (Linnaeus, 1758)



UN by Erin Silversmith



UP by J.M. Garg

Wing span: 110–130mm.

Larval Host Plants:

Evodia sp., *Glycosmis arborea*, *Toddalia asiatica*, *Zanthoxylum acanthopodium*, *Z. rhetsa* (Rutaceae).

Distribution: Subspecies:

P. h. daksha Hampson, 1889: Western Ghats south of Gujarat.

Blue Mormon *Papilio polymnestor* (Cramer, 1775)

UP by Raju Kasambe



UN by Vinayraj

Wing span: 120–150mm.

Larval Host Plants:

Atalantia racemosa and *Atalantia wightii*, *Glycosmis arborea*, *Paramigyna monophylla*, *Citrus grandis*, *Citrus limon*, other *Citrus* cultivars (Family Rutaceae).

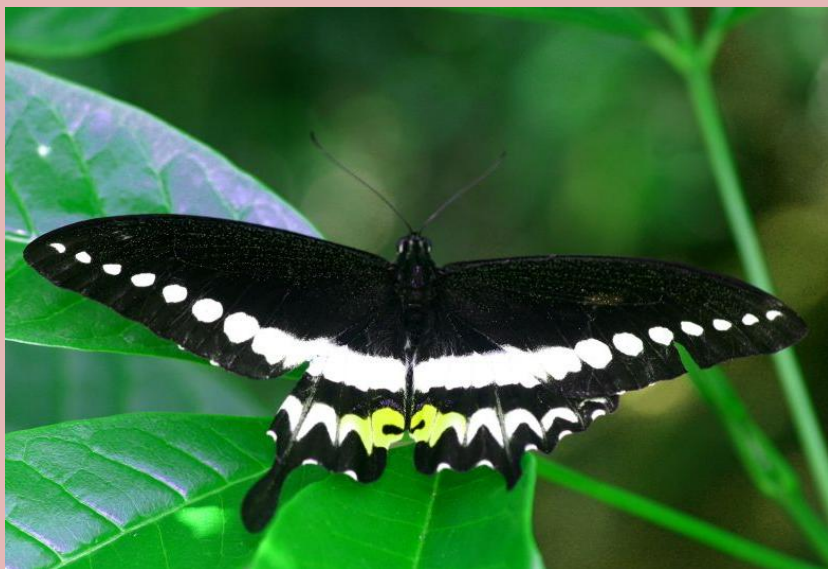
Endemicity:

Endemic to India and Sri Lanka.

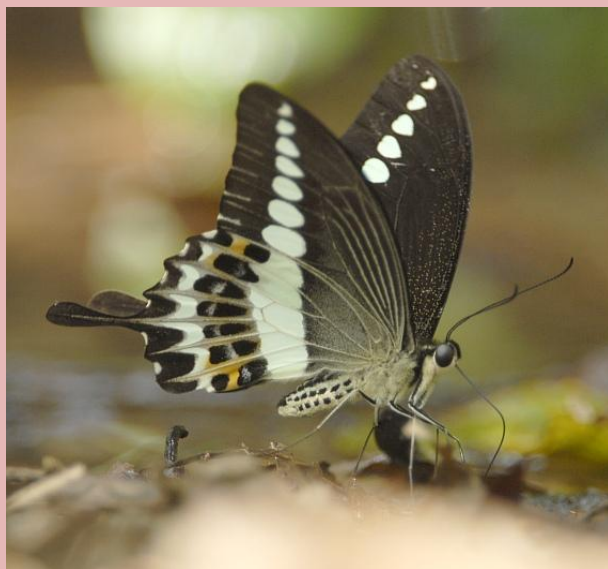
Distribution:

P. p. polymnestor Cramer, [1775]: Peninsular India as far north as W. Bengal and Bangladesh, to Madhya Pradesh and Gujarat.

Note: It is the ‘State butterfly’ of Maharashtra state.

Malabar Banded Swallowtail *Papilio liomedon* (Moore, 1875)

UP by Praveen J.



UN by Kalyan Varma

Wing span: 90–100mm.

Larval Host Plants:

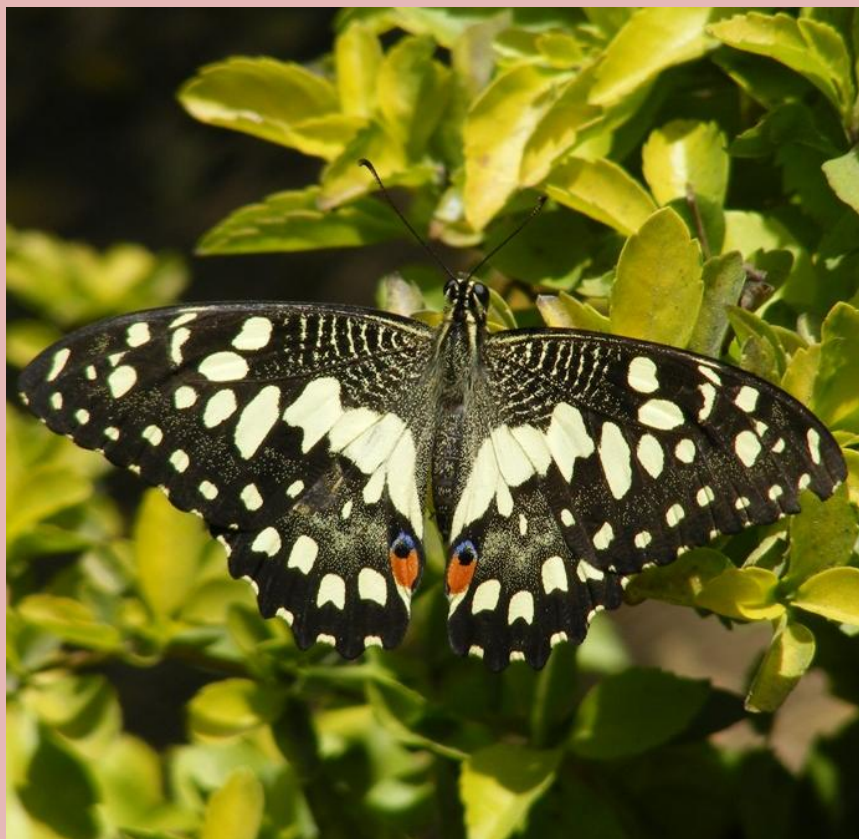
Acronychia laurifolia, *A. pedunculata* and *Evodia roxburghiana* (Family Rutaceae).

Distribution:

Western Ghats as far north as Goa.

Endemicity:

Endemic to Western Ghats.

Lime Butterfly *Papilio demoleus* (Linnaeus, 1758)

Clockwise from left: Fresh specimen UN by Raju Kasambe; Fresh specimen UN by Raju Kasambe and old specimen UN by Ravi Vaidyanathan

Wing span: 80–100mm.

Larval Host Plants:

Cultivated lime, orange and lemons (Family Rutaceae). *C. aurantifolia*, *C. grandis*, *C. limon*, *C. sinensis*, *Atalanta racemosa*, *Glycosmis pentaphylla*, *Glycosmis arborea*, *Ruta graveolens*, Bael *Aegle marmelos*, Curry Tree *Murraya koenigii*, *Chloroxylon swietenia*, *Acronychia pedunculata* (Family Rutaceae). Ber *Ziziphus mauritiana* (Family Rhamnaceae).

Distribution:

P. d. demoleus Linnaeus, 1758: Throughout India below 2000 m elevation.

Paris Peacock *Papilio paris* (Linnaeus, 1758)

UP by Aparajita Datta



UN by J.M. Garg

Wing span: 90–140mm.

Larval Host Plants:

Citrus spp., *Evodia roxburghiana*, *Toddalia asiatica*, *Zanthoxylum ovalifolium*
(Family Rutaceae).

Distribution: Subspecies:

P. p. tamilana Moore, 1881: Western Ghats as far north as Maharashtra.

Common Banded Peacock *Papilio crino* (Fabricius, 1792)



UP by J.M. Garg



UN by Kalyan Varma

Wing span: 80–100mm.

Larval Host Plants:

Satinwood tree *Chloroxylon swietenia* (Family Rutaceae).

Distribution:

Peninsular India as far north as West Bengal.

Malabar Banded Peacock *Papilio buddha* (Westwood, 1872)



UP by Vengolis



UN by Vengolis

Wing span: 90–100mm.

Larval Host Plants:

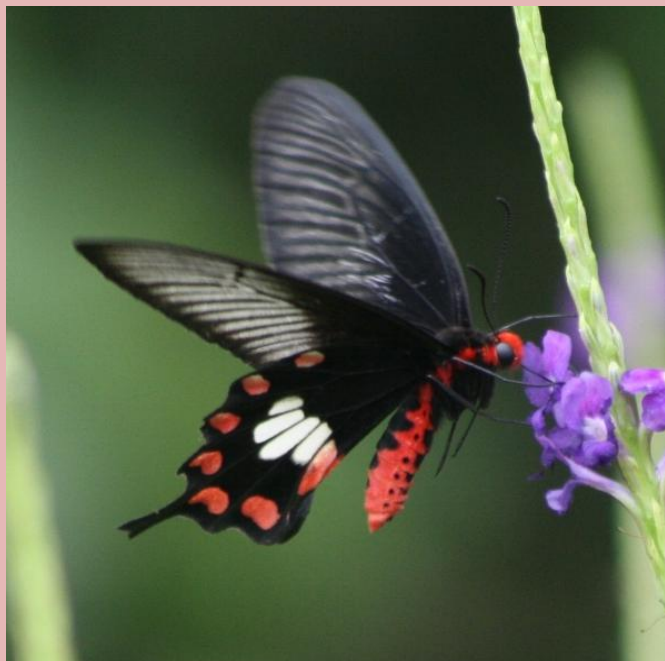
Zanthoxylon rhetsa (Family Rutaceae).

Distribution:

Western Ghats as far north as Goa.

Endemicity:

Endemic to Western Ghats.

Common Rose *Pachliopta aristolochiae* (Fabricius, 1775)

UNUP by Raju Kasambe



UN by Yathin S. Krishnappa

Wing span: 80–110mm.

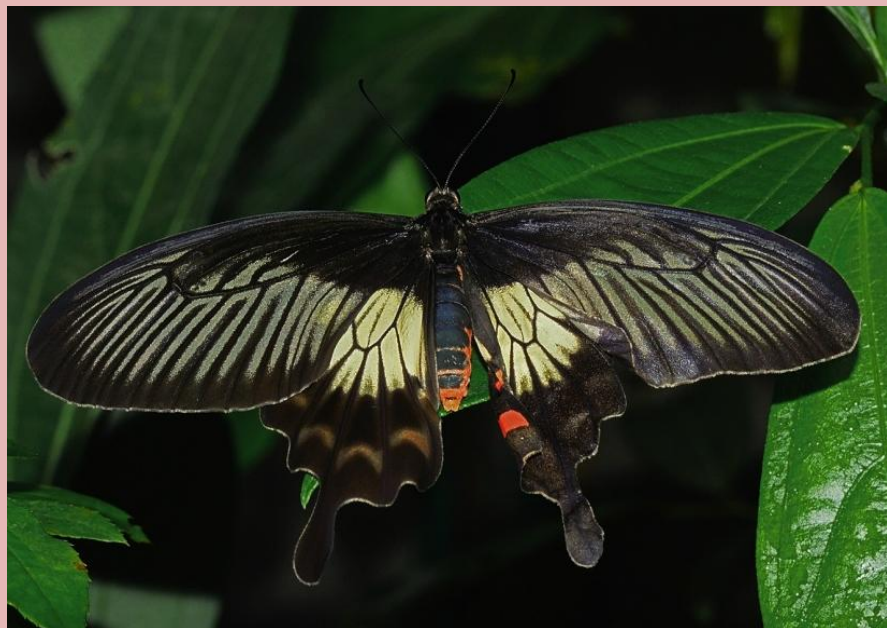
Larval Host Plants:

Aristolochia bracteolate, *A. indica*, *A. tagala*, *A. griffithi*, *A. elegans*, *Thottea siliquosa* (family Aristolochiaceae).

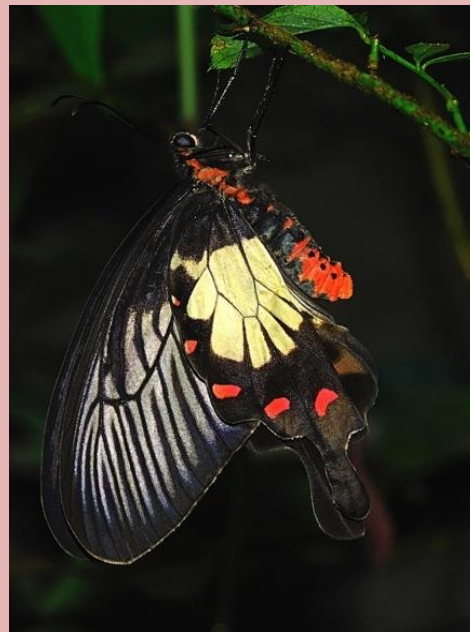
Distribution: Subspecies:

P. a. aristolochiae (Fabricius, 1775): Throughout India.

Malabar Rose *Pachliopta pandiyana* (Moore, 1881)



UN by Hariharan Subramanian



UN by Hariharan Subramanian

Wing Span: 100–130mm.

Larval Host Plants:

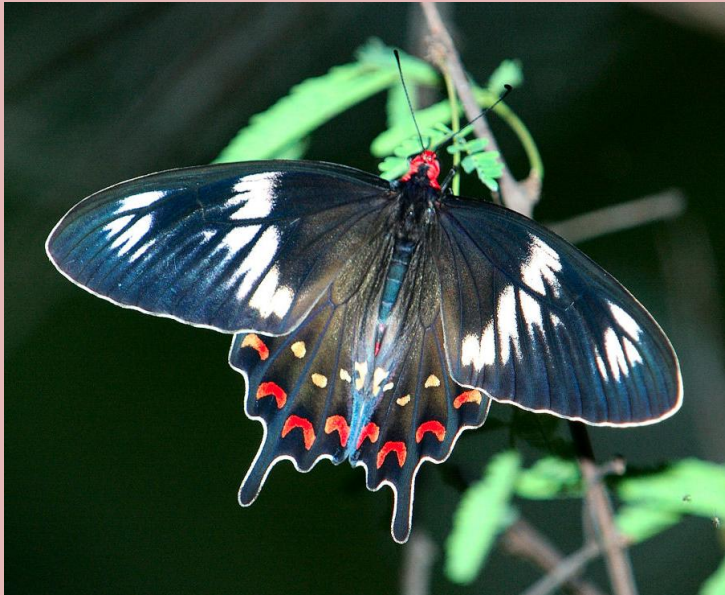
Thottea siliquosa (family Aristolochiaceae).

Distribution:

Western Ghats south of Goa.

Endemicity:

Endemic to Western Ghats.

Crimson Rose *Pachliopta hector* (Linnaeus, 1758)

UP by Dr. Tarique Sani



UN by Raju Kasambe

Wing span: 90–110mm.

.Larval Host Plants:

Aristolochia indica, *A. bracteolata*, and *Thottea siliquosa* (Family Aristolochiaceae).

Distribution:

Peninsular India to W. Bengal. Straggler to the Andamans and Uttarakhand.

Southern Birdwing *Troides minos* (Cramer, 1779)



UP by Vengolis



UN by Anila Manalil

Wing span: 140–190 mm.

Larval Host Plants:

Aristolochia indica, *Aristolochia tagala* and *Thottea siliquosa* (Creepers and climbers of the family Aristolochiaceae).

Distribution:

Maharashtra to Kerala.

Endemicity:

Endemic to Western Ghats.

Family Facts

Family Pieridae: Whites and Yellows

Most butterflies of the Family Pieridae are white or yellow in color, as the family's common name suggests. They have black, red or orange markings.

Butterflies belonging to this family have following general features: 1) medium size; 2) the tips of the legs, called the claws, are forked; 3) the forelegs of males and females are full-sized and fully functional; and 4) many exhibit sexual dimorphism, meaning that male and female butterflies of the same species look different. Several species show seasonal variations, like dry season forms (DSF) and wet season forms (WSF). They love basking in the sunlight with wings open, hence majority are found in open country. Males of many species gather at wet patches for mudpuddling.

Eggs are generally round and elongated, like a cylinder, and ribbed. They are laid either singly or in batches. Caterpillars are generally green and without hairs or spines. Pupae typically have both a cremaster and a silk girdle, and often are pointed at the head. They are anchored at the tail.

Indian Cabbage White *Pieris canidia* (Linnaeus, 1768)

UN by J.M. Garg



UP by J.M. Garg

Wing span: 45–60mm.

Larval Host Plants:

Nasturtium spp., *Rorippa dubia*, *Sisymbrium sp.*, Cabbage and related species (Family Cruciferae).

Distribution:

P. c. canis Evans, 1912: Kerala; Tamil Nadu.

Pioneer *Anaphaeis aurota* Fabricius, 1793

UN and UP by Raju Kasambe

Wing span: 40–55mm.

Larval Host Plants:

Capparis zeylanica, *C. decidua*, *C. rheedi*, *C. sepiaria*, *C. spinosa*, *Maerua oblongifolia*, *Cadaba fruticosa* (Capparaceae).

Distribution:

Throughout India except north eastern states.

Common Gull *Cepora nerissa* (Fabricius, 1775)

Clockwise from top left: Male UN, Male UP, Female UP and Female UN all by Raju Kasambe

Wing span: 40–65mm.

Larval Host Plants

Capparis spp. e.g., *Capparis zeylanica*.

Distribution: Subspecies:

C. n. evagete (Cramer, [1779]): Andhra Pradesh, Chhattisgarh, Delhi, Goa, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Rajasthan, Tamil Nadu, W. Bengal.

Lesser Gull *Cepora nadina* (Lucas, 1852)



UN by Aditya Joshi

Wing span: 55–65mm.

Larval Host Plants:

Capparis cleghornii, *C. moonii*, *C. rheedii* (Family Capparaceae).

Distribution: Subspecies:

C. n. remba (Moore, [1858]) Gujarat to Kerala.

White Orange Tip *Ixias marianne* (Cramer, 1779)

Upper- UP Male; Lower: UP Female; Right side: UN. All by Raju Kasambe

Wing span: 50–55mm.

Larval Host Plants:

Capparis grandis, *C. decidua*, *C. divaricata*, *C. sepiaria*, *Maerua oblongifolia*, *Cadaba fruticosa* (Family Capparaceae).

Distribution:

Throughout India excluding the North Eastern states and Jammu & Kashmir.

Yellow Orange Tip *Ixias pyrene* Linnaeus, 1764

Upper- UP Male; Lower: UN; Right side: UP Yellow form. All by Raju Kasambe

Wing span: 50–70mm.

Larval Host Plants

Capparis decidua, *C. divaricata*, *C. sepiaria*, *C. zeylanica* (Family Capparaceae).

Distribution: Subspecies:

I. p. sesia (Fabricius, 1777): Throughout mainland India.

Common Jezebel *Delias eucharis* (Drury, 1773)

UN by Raju Kasambe



UNUP by Raju Kasambe

Wing span: 66–83mm.

Larval Host Plants:

Dendrophthoe falcata, *Helicanthes elastica*, *Scurrula parasitica* (Family Loranthaceae), *Viscum* spp. (Family Viscaceae). The host plants are various species of small parasitic shrubs such as Mistletoe or *Loranthus* which grow on branches of woody trees.

Distribution:

Throughout India except Andaman & Nicobar Is., Lakshadweep.

Painted Sawtooth *Prioneris sita* (C. & R. Felder, 1865)



UN by Kishen Das



UN by Anila Manalil

Wing span: 80–90mm.

Larval Host Plants:

Capparis tenera, *C. zeylanica* (Family Capparaceae).

Endemicity: Endemic to South India and Sri Lanka.

Distribution:

Maharashtra to Kerala.

Spot Puffin *Appias lalage* (Doubleday, 1842)

UN by Rahul K. Nattu

Wing span: 55–80mm.

Larval Host Plants:

Data deficient.

Distribution:

A. l. lalage (Doubleday, 1842): Uttarakhand to N.E. India; Kerala, Tamil Nadu.

Plain Puffin *Appias indra* (Moore, 1857)



UN Male and UN Female both photos by Sagar Sarang

Wing span: 60–70mm.

Larval Host Plants:

Drypetes oblongifolia and *Putranjiva roxburghii*, family Putranjivaceae.

Distribution: Subspecies:

A. i. shiva (Swinhoe, 1885): Goa, Karnataka, Kerala, Tamil Nadu.

Striped Albatross *Appias libythea* (Fabricius, 1775)

Clockwise from top left: Female UN and Female UP, Male UP and Male UN all by Raju Kasambe

Wing span: 50–60mm.

Larval Host Plants:

Capparis cleghornii, *C. sepiaria*, *C. zeylanica*, *Crateva adansonii* (Family Capparaceae).

Distribution: Subspecies: *A. l. libythea* (Fabricius, 1775): Rajasthan eastwards to Odisha and southwards to Kerala; Andaman & Nicobar Is., Punjab, Uttar Pradesh, Uttarakhand.

Common Albatross *Appias albina* (Boisduval, 1836)

Male UN by Kishen Das



Female UN by Vijay Barve

Wing span: 60–75mm.

Larval Host Plants:

Drypetes oblongifolia, *Drypetes roxburghii* and *Drypetes venusta* (Family Euphorbiaceae).

Distribution: Subspecies:

A. a. darada (C. & R. Felder, [1865]): Uttarakhand to N.E. India; Maharashtra to Kerala, Odisha.

Subspecies:

A. a. swinhoi (Moore, 1905): Gujarat to Kerala; Madhya Pradesh, Odisha.

Chocolate Albatross *Appias lyncida* (Cramer, 1777)

UN by Nandish Songire



UP by Raju Kasambe

Wing span: 55–70mm.

Larval Host Plants:

Crataeva religiosa, *Capparis roxburghii*, *C. cleghornii*, and *C. heyneana* (Family Capparaceae).

Distribution: Subspecies:

A. l. latifasciata Moore, 1881: Maharashtra to Kerala.

***Psyche Leptosia nina* (Fabricius, 1793)**

UN and UP by Raju Kasambe

Wing span: 35–50mm.

Larval Host Plants:

Cleome viscosa (Family Cleomaceae), Capers e.g. *Capparis zeylanica*, *C. rheedii*, *C. sepiaria*, *C. spinosa*, *Crataeva adansonii* (Family Capparaceae).

Distribution: Subspecies:

L. n. nina (Fabricius, 1793): Throughout India east of Punjab, including the Andaman Is.

Great Orange Tip *Hebomoia glaucippe* (Linnaeus, 1758)

UP and UN by Raju Kasambe

Wing span: 80–100mm.

Larval Host Plants:

Crataeva religiosa, *Capparis monii*, *Capparis roxburghii*, *Capparis cantoniensis* and *Capparis sepiaria* (Family Capparaceae).

Distribution:

Subspecies: *H. g. australis* Butler, 1898: Gujarat to Kerala.

Small Salmon Arab *Colotis amata* (Cramer, 1775)

UN and UP by Raju Kasambe

Wing span: 35–50mm.

Larval Host Plants:

Toothbrush Tree *Salvadora persica* (also called Meswak), Pilu *S. oleoides*, *Azima tetracantha* (Family Salvadoraceae).

Distribution: Subspecies:

C. a. amata (Fabricius, 1775): Delhi; Gujarat; Haryana; Maharashtra; Punjab; Rajasthan; Uttar Pradesh.

Subspecies:

C. a. modestus (Butler, 1876): Andhra Pradesh; Karnataka; Kerala; Odisha; Tamil Nadu; W. Bengal.

White Arab *Colotis phisadia* (Godart, 1819)

UP and UN by Raju Kasambe

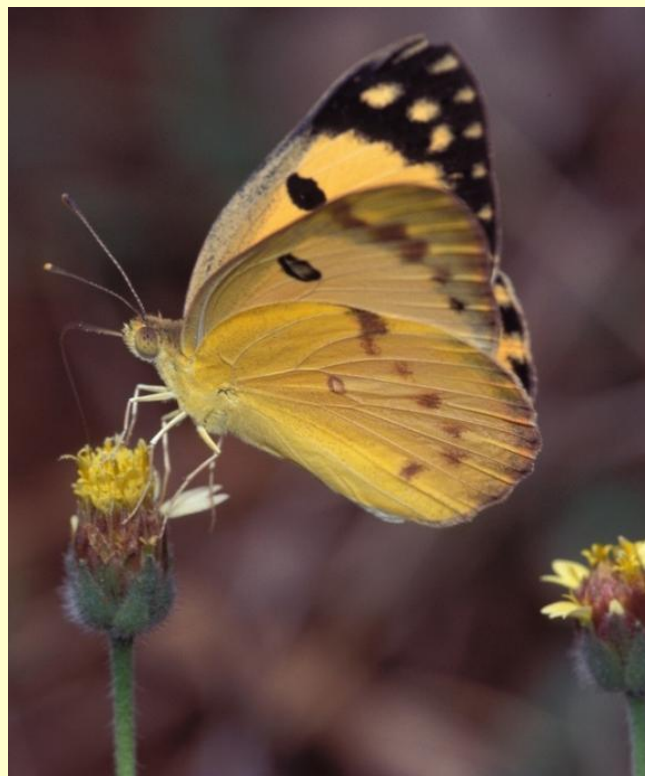
Wing span: 40–50mm.

Larval Host Plants:

Salvadora spp. (Family Salvadoraceae).

Distribution:

C. p. vestalis (Butler, 1876): Delhi, Haryana, Gujarat, Punjab, Rajasthan, Uttar Pradesh.

Large Salmon Arab *Colotis fausta* (Olivier, 1804)

UP and UN by Dr. M. S. Mayilavahanan

Wing span: 40–50mm.

Larval Host Plants:

Maerua oblongifolia (Hindi: Hemkand, Telangana: Bhoochakra Gadda and Andhra: Bhoochakra dumpa) (Family Capparaceae).

Distribution: Subspecies:

C. f. fausta (Olivier, 1804): Delhi, Haryana, Gujarat, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Uttar Pradesh.

Subspecies:

C. f. fulvia (Wallace, 1867): Karnataka, Kerala, Tamil Nadu.

Little (Small) Orange-Tip *Colotis etrida* (Boisduval, 1836)

UP and UN by Raju Kasambe

Wing span: 25–45mm.

Larval Host Plants:

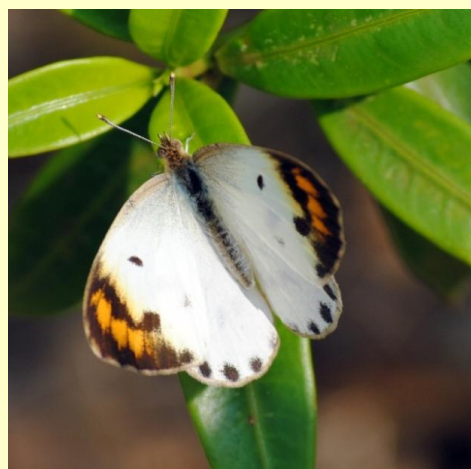
The Toothbrush Tree *Salvadora persica* (also called Meswak), Pilu *Salvadora oleiodes*, and Indian Cadaba (*Cadaba indica*).

Distribution:

C. e. etrida (Boisduval, 1876): Andhra Pradesh, Delhi, Goa, Gujarat, Haryana, Himachal Pradesh, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, Uttarakhand.

Plain Orange Tip *Colotis aurora* (Cramer, [1780])

(Syn. *Colotis eucharis* Fabricius, 1775)



Clockwise from left: UN, UP Male and UP Female all by Dattaprasad Sawant

Wing span: 40–45mm.

Larval Host Plants:

Indian Cadaba *Cadaba fruticosa* (Family Capparaceae).

Distribution:

C. a. aurora (Cramer, [1780]): Goa; Gujarat; Karnataka; Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu.

Crimson Tip *Colotis danae* (Fabricius, 1775)

Clockwise from left: UN by J. M. Garg, UP Male by Raju Kasambe, UP Female by Chinmayi S.K.

Wing span: 40–50mm.

Larval Host Plants:

Indian Cadaba *Cadaba fruticosa*, *Capparis divaricata*, *C. sepiaria*, *Maerua oblongifolia* (Hindi: Hemkand, Telangana: Bhoochakra Gadda and Andhra: Bhoochakra dumpa) (Family Capparaceae).

Distribution:

C. d. danae (Fabricius, 1775): Goa, Gujarat, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Tamil Nadu.

Dark Wanderer *Pareronia ceylanica* (C. & R. Felder, 1865)



UP by Saish Borkar

Wing span: 65–80mm.

Larval Host Plant: *Capparis heyneana*.

Endemicity: Endemic to Western Ghats and Sri Lanka.

Distribution:

Subspecies: *P. c. ceylanica* (C. & R. Felder, 1865): Goa to Kerala.

Common Wanderer *Pareronia valeria* (Cramer, 1776)

Left: UP Male, right UP Female by Raju Kasambe



Left: UP female *Philomela* form by Dr. Amol Patwardhan and right UN Male by Raju Kasambe

Wing span: 65–85mm.

Larval Host Plants:

Capparis zeylanica, *C. rheedii* (Family Capparaceae).

Distribution:

P. v. hippia (Fabricius, 1787): Throughout India except Jammu & Kashmir, Punjab and Rajasthan.

Common Emigrant *Catopsilia pomona* (Fabricius, 1775)Male UN and Female form *catilla* by Raju Kasambe

Female UN by Raju Kasambe



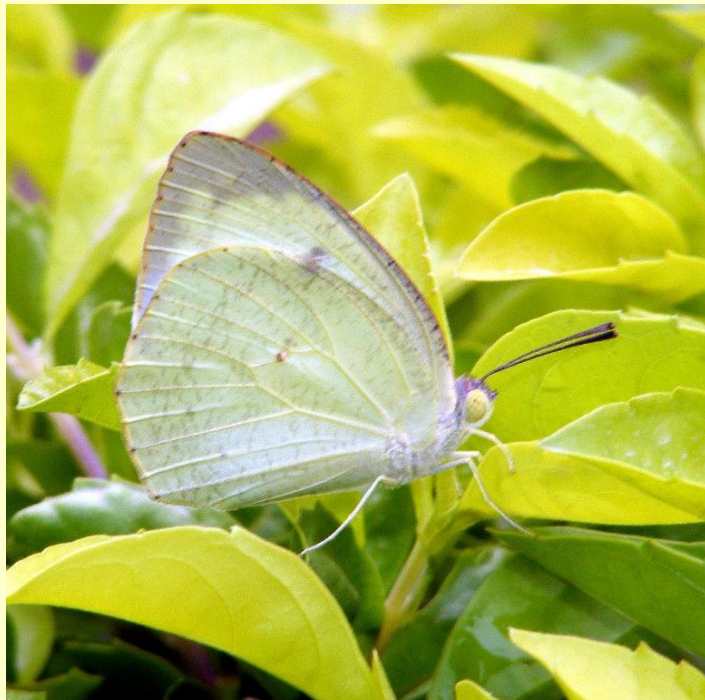
Female UN by J.M. Garg

Wing span: 55–80mm.**Larval Host Plants:**

Species of *Cassia*. Other host plants include Palash or Flame of the Forest *Butea monosperma* (Family Fabaceae), *Cassia fistula*, *C. tora*, *C. siamea*, Bidi Leaf Tree *Bauhinia racemosa* (Marathi: Apta) (Family Caesalpiniaceae), *Pterocarpus indicus*, *Senna alata* and *Sesbania* species (Family Fabaceae).

Distribution:

Throughout India.

Mottled Emigrant *Catopsilia pyranthe* (Linnaeus, 1758)

UN by Raju Kasambe

Wing span: 50–70mm.

Larval Host Plants:

Cassia spp. (e.g., *C. fistula*, *C. auriculata*, *C. occidentalis*, *C. tora* (Family Caesalpiniaceae), *Sesbania bispinosa* (Family Fabaceae).

Distribution:

Throughout India.

Small Grass Yellow *Eurema brigitta* (Stoll, [1780])

UN by Raju Kasambe

Wing span: 30–40mm.

Larval Host Plants:

Cassia cleinii (Family Caesalpiniaceae), *Smithia sensitiva*, *Chamaecrista mimosoides* (Family Fabaceae).

Distribution:

E. b. rubella (Wallace, 1867): Throughout India including the Andaman and Nicobar Is.

Spotless Grass Yellow *Eurema laeta* (Boisduval, 1836)

WSF UN by Raju Kasambe



DSF UN by Vedant Kasambe

Wing span: 30–45mm.

Larval Host Plants:

Cassia pumila (Family Caesalpiniaceae), *Chamaecrista mimosoides* (Family Fabaceae).

Distribution: Subspecies:

E. l. laeta (Boisduval, 1836): Throughout India, west of Sikkim and West Bengal.

One-Spot Grass Yellow *Eurema andersoni* Moore, 1886



UN by Raju Kasambe

Wing span: 38-45mm.

Larval Host Plants:

Data deficient.

Distribution: Subspecies:

E. a. shimai Yata & Gaonkar, 1999: Karnataka; Kerala; Tamil Nadu.

Common Grass Yellow *Eurema hecabe* (Linnaeus, 1758)

UN by Raju Kasambe



UN by L. Shyamal

Wing span: 40–50mm.

Larval Host Plants:

Abrus precatorius, *Aeschynomene* spp. (*A. americana*, *A. indica*), *Calliandra haematocephala*, *Senna alata*, *Sesbania sesban*, *Smithia sensitiva*, *Caesalpinia* spp. (*C. pulcherrima*, *C. sappan*, *C. haematocephala*) (Family Fabaceae). *Cassia fistula*, *Gulmohar* *Delonix regia* (Family Caesalpiniaceae), *Acacia* spp., *Pithecellobium dulce*, *Albizia* spp. (*A. procera*), (Family Mimosaceae).

Distribution:

E. h. hecabe (Linnaeus, 1758): Throughout India, including the Andaman and Nicobar Islands.

Three-spot Grass Yellow *Eurema blanda* (Boisduval, 1836)

UN by Vengolis



UN by Raju Kasambe

Wing span: 40–45mm.

Larval Host Plants:

Cassia spp., Gulmohar *Delonix regia*, *Moulluva spicata* (Family Caesalpiniaceae),
Albizia spp., *Pithecellobium dulce* (Family Mimosaceae).

Distribution: Subspecies:

E. b. davidsoni Moore, 1906: Gujarat to Kerala.

Nilgiri Clouded Yellow *Colias nilagiriensis* (C. & R. Felder, 1859)



UN by Anila Manalil

Wing span: 45–55mm.

Larval Host Plants:

Paroetus communis (Family Fabaceae).

Distribution:

Kerala; Tamil Nadu.

Endemicity: Endemic to Western Ghats.

Family Facts

Lycaenidae: Blues

Most butterflies belonging to the family Lycaenidae has blue uppersides. The butterflies are generally characterized by: 1) small size, 2) reduced forelegs in males but full-sized forelegs in females; thus they use only the remaining four legs. Females have normal six legs. 3) A slightly different pattern of wing veins.

Many of the blues have lobes to their hind wings. Many have short or long fluffy tails to their hind wings.

Eggs generally appear round and flattened like turbans. Caterpillars generally are small, shaped like slugs, and hairy. The caterpillars of many of the species of blues have a dorsal secretory organ which produces a sugary solution which attracts to ants. The ants feed on the solution and in turn protect the caterpillar from predators (a symbiotic behavior referred to as "tending"). Pupae are generally small and round, may have a silk girdle, and are located near or on the ground. Generally no cocoon is formed.

Caterpillars of some species of Lycaenidae are insectivorous, feeding on aphids or scale insects.

Two-spot Plum Judy *Abisara bifasciata* Moore, 1877
(Syn. Plum Judy)



UN and UP by Raju Kasambe

Wing span: 40–50 mm.

Larval Host Plants:

Distribution: Subspecies:

A. b. suffusa Moore, 1882. Gujarat southwards to Karnataka and Tamil Nadu and eastwards to West Bengal; Himachal Pradesh to N.E. India.

Note: The similar looking Plum Judy *Abisara echerius* (Stoll, 1790) (Syn. Straight Plum Judy) (Subspecies: *A. e. prunosa* Moore, 1879) is distributed across Kerala and Tamil Nadu in Southern Western Ghats. It has a Wing span of 40–50 mm. It's larval host plants are *Ardisia* spp., *Maesa indica* and *Embelia robusta*, *R. laeta* (family Primulaceae).

Dark Mottle *Logania distanti* Semper, 1889.



UN by Raju Kasambe

Wing span: 20–25 mm.

Larval Host Plants:

Data deficient.

Distribution:

L. d. massalia Doherty, 1891. Karnataka. Sikkim to N.E. India.

Common Apefly *Spalgis epius* (Westwood, 1852)

UN by Aditya Joshi



UP by Sanket Mhatre

Wing span: 20–30 mm.

Larval Host Plants:

Feeds on scale insects and mealy bugs. Do not feed on plants. Caterpillars are carnivorous.

Distribution: Subspecies:

S. e. epius (Westwood, 1852): Uttarakhand to N.E. India; Gujarat to Kerala and east to W. Bengal.

Red Pierrot *Talica n. nyseus* (Guérin-Meneville, 1843)

UN Raju Kasambe



UP by Ravi Vaidyanathan

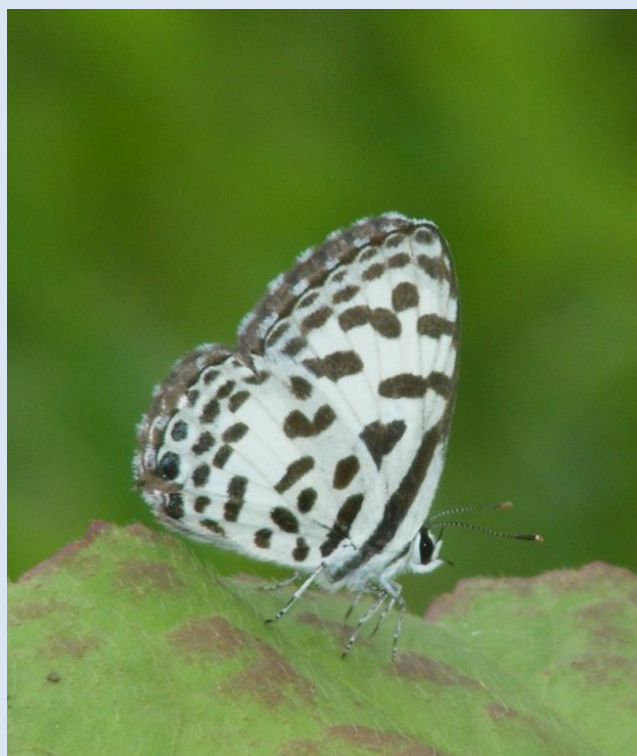
Wing span: 30–35 mm.

Larval Host Plants:

Kalanchoe laciniata and *K. pinnata* (Syn. *Bryophyllum pinnatum*) (Family Crassulaceae).

Distribution: Subspecies:

T. n. nyseus (Guerin-Meneville, 1843): Maharashtra to Kerala, eastward to Andhra Pradesh; Himachal Pradesh; Uttarakhand; Uttar Pradesh; Delhi.

Common Pierrot *Castalius rosimon* (Fabricius, 1775)

UN and UP by Raju Kasambe

Wing span: 24–34 mm.

Larval Host Plants:

Ziziphus jujuba, *Z. mauritiana*, *Z. rugosa* (Family Rhamnaceae).

Distribution:

C. r. rosimon (Fabricius, 1775): Throughout India including Andaman & Nicobar Is.

Dark Pierrot *Tarucus ananda* (de Nicéville, 1884)



UN by Raju Kasambe



UP by Chinmayi S.K.

Wing span: 22–28 mm.

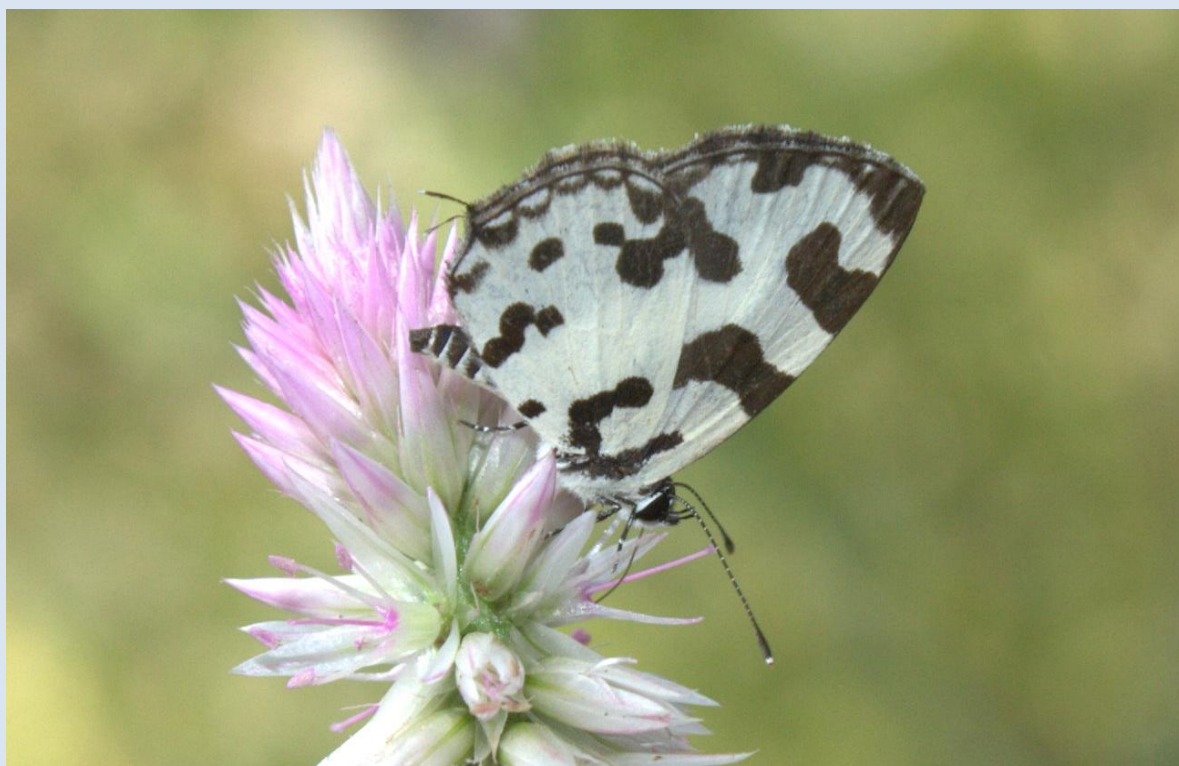
Larval Host Plants:

Zizyphus spp. (Family Rhamnaceae).

Distribution:

Maharashtra to Kerala; Sikkim to N.E. India.

Angled Pierrot *Caleta decidia* (Hewitson, 1876)



UN by Raju Kasambe

Wing span: 26–32 mm.

Larval Host Plants:

Zizyphus rugosa (Family Rhamnaceae).

Distribution:

C. d. decidia (Hewitson, 1876): Peninsular India; Sikkim to N.E. India.

Banded Blue Pierrot *Discolampa ethion* (Westwood, 1851)

UN by Raju Kasambe

Wing span: 26–30 mm.

Larval Host Plants:

Zizyphus spp. (Family Rhamnaceae).

Distribution:

Subspecies: *D. e. ethion* (Westwood, 1851): Andaman & Nicobar Is. (Andamans); Gujarat to Kerala; Uttarakhand to N.E. India.

Spotted Pierrot *Tarucus callinara* Butler, 1886



UN by Raju Kasambe

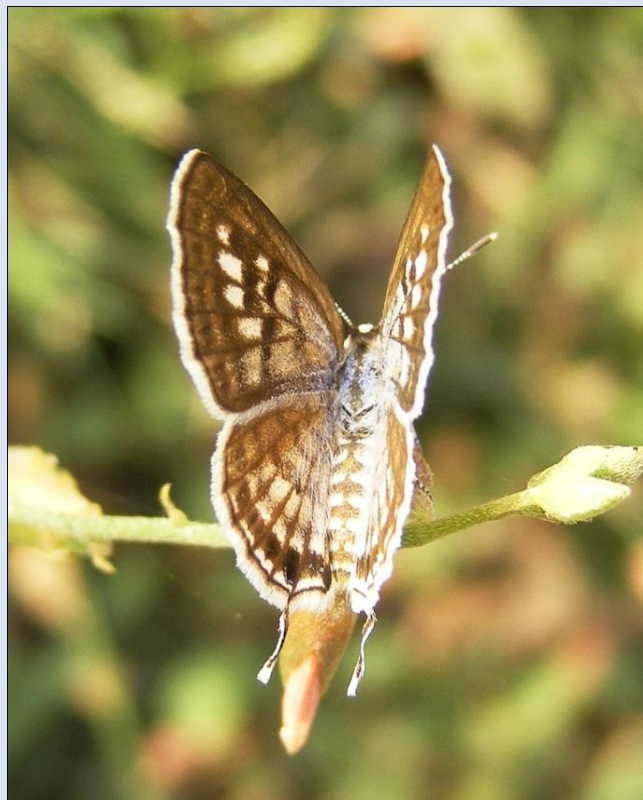
Wing span: 24–26 mm.

Larval Host Plants:

Ber or Indian Plum *Ziziphus mauritiana* (Family Rhamnaceae).

Distribution:

Goa to Kerala; Himachal Pradesh to West Bengal and Chhattisgarh.

Striped Pierrot *Tarucus nara* (Kollar, 1848)

UN and UP by Raju Kasambe

Wing span: 23–28 mm.

Larval Host Plants:

Ber or Indian Plum *Ziziphus mauritiana*, *Z. nummularia* (Family Rhamnaceae).

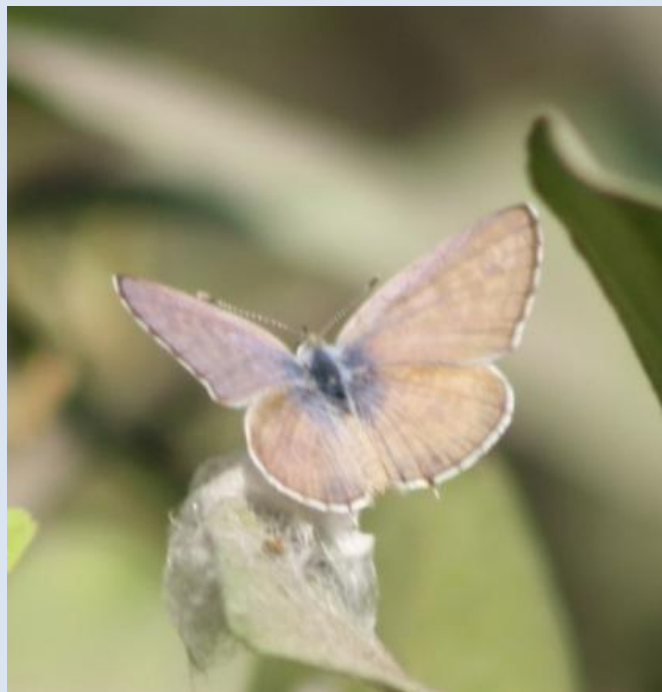
Distribution:

Throughout India excluding Jammu & Kashmir; Rajasthan and N.E. India.

Black-spotted Pierrot *Tarucus balkanicus* (Freyer, 1844)**(Syn. Balkan Pierrot)**

UN and UP by Raju Kasambe

Wing span: 23–28 mm.**Larval Host Plants:***Ziziphus jujuba*, *Z. nummularia* (Family Rhamnaceae).**Distribution:***T. b. nigra* Bethune-Baker, [1918]: India north of Maharashtra to West Bengal.

Zebra Blue *Leptotes plinius* (Fabricius, 1793)

UN and UP by Raju Kasambe

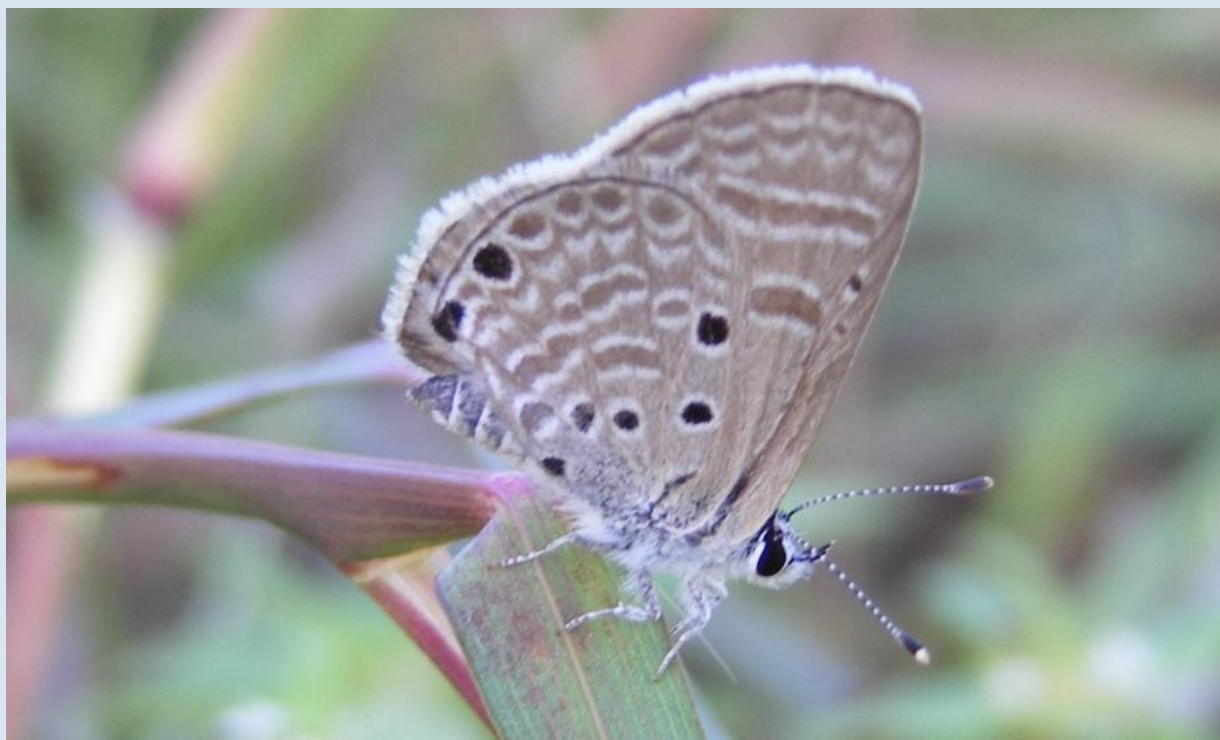
Wing span: 22–30 mm.

Larval Host Plants:

Albizia lebbbeck, *Indigofera suffruticosa*, *Sesbania bispinosa*, *S. sesban*, *Dalbergia lanceolaria* (Family Fabaceae), *Mimosa spp.* (Family Mimosaceae), *Dyerophytum indicum*, *Plumbago zeylanica*, *P. indica* (Family Plumbaginaceae).

Distribution:

Throughout India except Jammu & Kashmir.

Bright Babul Blue *Azanus ubaldus* (Stoll, [1782])

UN by Raju Kasambe

Wing span: 20–25 mm.

Larval Host Plants:

Wattle *Acacia arabica*, Kher *A. catechu*, Babul *A. nilotica*, *A. senegal* (Family Mimosaceae).

Distribution:

Throughout India except the N.E. states.

Dull Babul Blue *Azanus uranus* Butler, 1886

UN by Raju Kasambe

Wing span: 20–25 mm.

Larval Host Plants:

The Wattle *Acacia arabica*, Kher *A. catechu*, Babul *A. nilotica*, *A. senegal*, *A. farnesiana*, *A. modesta* (Family Mimosaceae).

Distribution:

Throughout India except the N.E. states.

African Babul Blue *Azanus jesous* (Guérin–Méneville, 1849)

UN by Raju Kasambe

Wing span: 21–26 mm.

Larval Host Plants:

The Wattle *Acacia arabica*, Kher *A. catechu*, Babul *A. nilotica*, *A. senegal*, *A. leucophloea* (Family Mimosaceae).

Distribution:

A. j. gamra (Lederer, 1855): India except east of W. Bengal.

Quaker *Neopithecops zalmora* (Butler 1870)

UN by Raju Kasambe

Wing span: 16–30 mm.

Larval Host Plants:

Glycosmis pentaphylla (Family Rutaceae).

Distribution: *N. z. dharma* (Moore, [1881]): Gujarat to Kerala.

Malayan *Megisba malaya* (Horsfield, 1828)

UN by Raju Kasambe

Wing span: 19–30 mm.

Larval Host Plants:

Allophyllus cobbe (Family Sapindaceae), Kumkum tree *Mallotus philippensis* (Family Euphorbiaceae)

Distribution: Subspecies:

M. m. thwaitesi Moore, [1881]: Maharashtra to Kerala; Sikkim; South India to West Bengal. Single record from Arunachal Pradesh.

Common Hedge Blue *Acytolepis puspa* (Horsfield, 1828)

WSF UN by L. Shyamal



DSF UN by Raju Kasambe

Wing span: 28–35 mm.

Larval Host Plants:

Paracalyx scariosus, *Xylia xylocarpa*, *Peltophorum pterocarpum*, *Gliricidia sepium* (Family Fabaceae), *Hiptage benghalensis* (Family Malpighiaceae), *Schleichera oleosa*, *Lepisanthes tetraphylla* (Family Sapindaceae), *Bridelia retusa* (Family Euphorbiaceae).

Distribution: Subspecies:

A. p. felderi Toxopeus, 1927: Gujarat to Kerala.

White Hedge Blue *Udara akasa* (Horsfield, 1828)

UN by Dhaval Momaya

Wing span: 26–30 mm.

Larval Host Plants:

Chinese Knotweed *Persicaria chinensis* (Syn. *Polygonum chinense*) (Family Polygonaceae).

Distribution:

U. a. mavisa (Fruhstorfer, 1917): Karnataka, Kerala and Tamil Nadu.

Plain Hedge Blue *Celastrina lavendularis* (Moore, 1877)



UN by Anila Manalil

Wing span: 28–34 mm.

Larval Host Plants:

Data deficient.

Distribution: Subspecies:

C. l. lavendularis (Moore, 1877): Karnataka; Kerala and Tamil Nadu.

Lime Blue *Chilades lajus* (Stoll, [1780])

Clockwise from left: WSF UN and DSF UN by Raju Kasambe. UP Female by Sneha

Wing span: 26–30 mm.

Larval Host Plants:

Species of lime and orange like *Citrus aurantifolia*, *C. maxima* (Syn. *C. grandis*), *C. limon*, *C. sinensis*, *C. limetta*, *Atlantia racemosa*, *A. wightii*, Orange Jasmine *Murraya paniculata*, *Naringi crenulata* (Family Rutaceae).

Distribution:

C. l. lajus (Stoll, [1780]): Throughout India.

Indian Cupid *Everes lacturnus* (Godart, 1824)



UN by Raju Kasambe

Wing span: 22–28 mm.

Larval Host Plants:

Desmodium spp, *Trifolium* spp. (Family Fabaceae).

Distribution: Subspecies:

E. l. syntala Cantlie, 1963: Gujarat southwards to Andhra Pradesh and Kerala.

Small Cupid *Chilades parrhasius* (Fabricius, 1793)

UN and UP (female) by Raju Kasambe

Wing span: 20–25 mm.

Larval Host Plants:

Bell Mimosa *Dichrostachys cinerea* (Family Fabaceae).

Distribution:

C. p. parrhasius (Fabricius 1793): Rajasthan to Kerala; eastwards to Uttar Pradesh; Himachal; Pradesh and Uttarakhand.

Dark Grass Blue *Zizeeria karsandra* (Moore, 1865)

Clockwise from left UN, Male UP, Female UP by Raju Kasambe

Wing span: 18–24 mm.

Larval Host Plants:

Amaranthus spinosus (Family Amaranthaceae), *Glinus lotoides* (Family Molluginaceae), *Zornia gibbosa* (Family Fabaceae), *Polygonum plebeium* (Family Polygonaceae), *Tribulus terrestris* (Family Zygophyllaceae).

Distribution:

Throughout India; Andaman and Nicobar Is.

Lesser Grass Blue *Zizina otis* (Fabricius, 1787)

Clockwise from left: UN by Raju Kasambe, UP male by Jeevan Jose, UP female by Raju Kasambe

Wing span: 19–26 mm.

Larval Host Plants:

Desmodium heterophyllum, *Sesbania bispinosa*, *Lathyrus* spp., *Vicia* spp. (Family Fabaceae).

Distribution:

Z. o. indica (Murray, 1874): Throughout India as far east as Jharkhand.

Pale Grass Blue *Pseudozizeeria maha* (Kollar, 1844)

UN and Male UP by Raju Kasambe

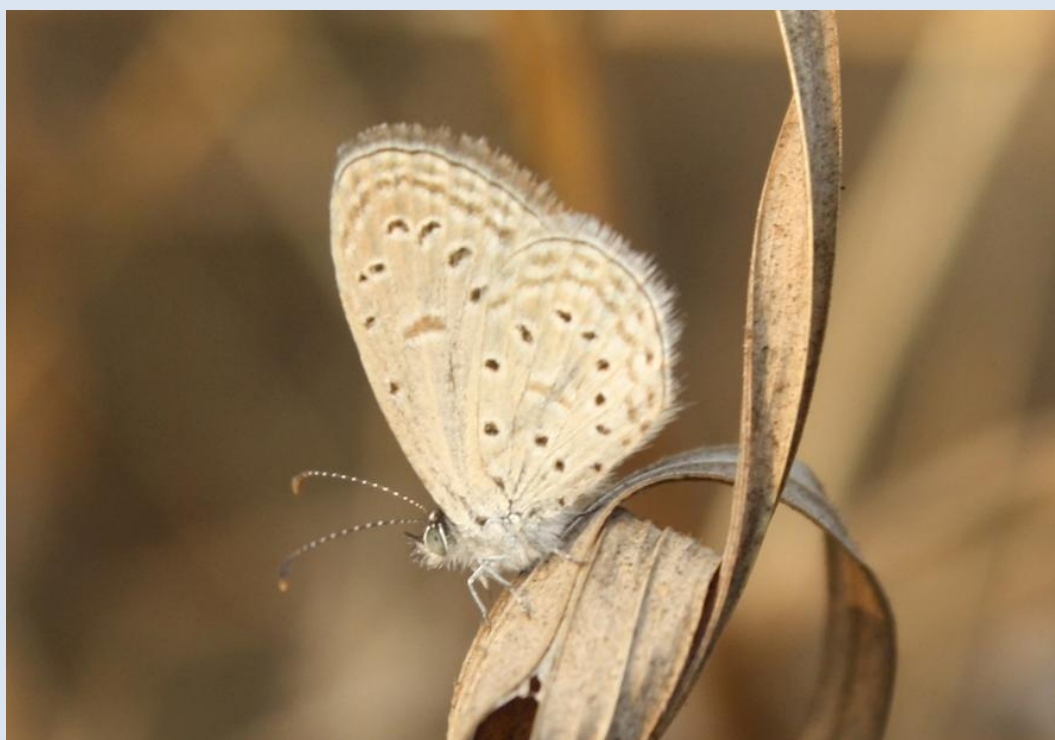
Wing span: 26–30 mm.

Larval Host Plants:

Oxalis corniculata (Family Oxalidaceae), *Tephrosia* spp. (Family Fabaceae),
Strobilanthes spp. (Family Acanthaceae).

Distribution: Subspecies:

P. m. ossa (Swinhoe 1885): Maharashtra to Kerala and Andhra Pradesh.

Tiny Grass Blue *Zizula hylax* (Fabricius, 1775)

UN by Raju Kasambe

Wing span: 16–22 mm.

Larval Host Plants:

Lantana camara (Family Verbenaceae), *Ruellia simplex*, *R. tuberosa*, *Dipteracanthus prostratus*, *Hygrophila auriculata*, *Nelsonia canescens*, *Phaulopsis dorsiflora*, *P. imbricata*, *Strobilanthes* spp. (Family Acanthaceae), *Vicia* spp. (Family Fabaceae).

Distribution:

Throughout India; Andaman and Nicobar Is..

Grass Jewel *Freyeria trochylus* (Freyer, 1845)

UN and UP by Raju Kasambe

Wing span: 15–22 mm.

Larval Host Plants:

Goniogyna hirta, *Heliotropium strigosum*, *Indigofera* spp., *Lotus corniculatus*, *Pisum sativum*, *Rhynchosia minima*, *Vicia* spp. (Family Fabaceae), *Heliotropium strigosum*, *Heliotropium bacciferum*, *Oxalis corniculata* (Family Oxalidaceae).

Distribution:

S. India; N. India from Punjab to N.E. India.

Gram Blue *Euchrysops cnejus* (Fabricius, 1798)

Clockwise from left: UN by Raju Kasambe, Male UP by Jeevan Jose, Female Up by Anila Manalil

Wing span: 25–33 mm.

Larval Host Plants:

Palash *Butea monosperma*, *Ougeinia dalbergioides*, *Paracalyx scariosa*, Pea *Pisum sativum*, *Vigna cylindrica*, *V. trilobata*, cultivated grams and beans (Family Fabaceae), *Acacia* spp. (Family Mimosaceae).

Distribution:

Throughout India.

Plains Cupid *Luthrodes pandava* (Horsfield, [1829])
(Syn. *Chilades pandava* (Horsfield, 1829))



UN by Raju Kasambe



UP by Sneha

Wing span: 25–33 mm.

Larval Host Plants:

Cycas circinalis, *Cycas revoluta* (Family Cycadaceae), *Acacia* spp., *Xylia xylocarpa* (Mimosaceae).

Distribution:

Throughout India.

Common Ciliate Blue *Anthene emolus* (Godart, 1824)

UN by Rohith Sanjay

Wing span: 28–35 mm.

Larval Host Plants:

Saraca asoca (Family Caesalpiniaceae), *Combretum extensum*, *Terminalia paniculata* (Family Combretaceae).

Distribution: Subspecies:

A. e. emolus (Godart, 1824): Bihar; Sikkim; Maharashtra southwards to Kerala and eastwards to West Bengal and N.E. India.

Pointed Ciliate Blue *Anthene lycaenina* (C. Felder, 1868)

Clockwise from left: UN, UP male and UP female by Raju Kasambe

Wing span: 24–29 mm.

Larval Host Plants:

Buchanania lanzan, *Bridelia retusa*, *Drypetes roxburghii*.

Distribution: Subspecies:

A. l. lycaenina (Felder, 1868): Gujarat southwards to Kerala and eastwards to Odisha and W. Bengal.

Forget-me-not *Catochrysops strabo* (Fabricius, 1793)

Clockwise from left UN, UP Female and UP Male by Raju Kasambe

Wing span: 25–35 mm.

Larval Host Plants:

Ougeinia dalbergioides, *Cylista scariosa*, *Desmodium elegans*, cultivated legumes (family Fabaceae), *Schleichera trijuga* (Family Sapindaceae).

Distribution:

C. s. strabo (Fabricius, 1793): Throughout India including Andaman & Nicobar Is.

Silver Forget-me-not *Catachrysops panormus* (C. Felder, 1860)



UN by Parixit Kafley



UP by Parixit Kafley

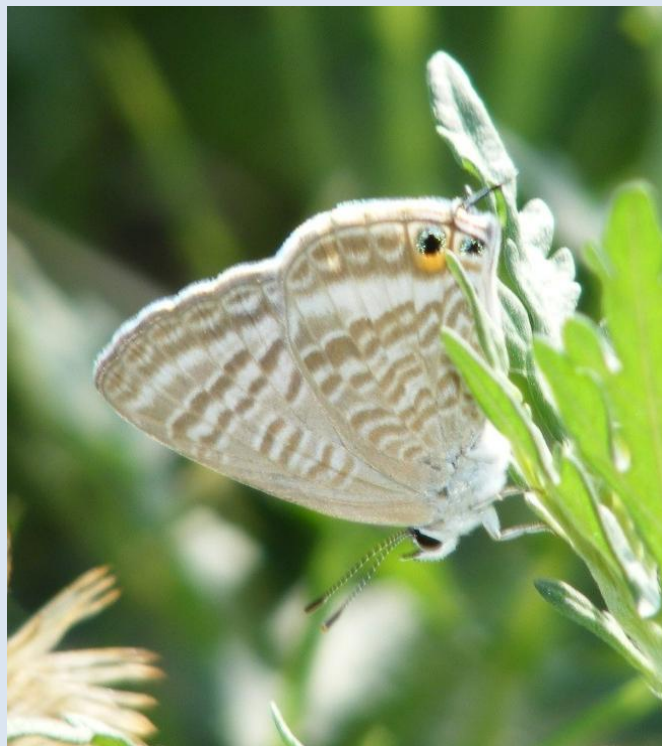
Wing span: 25–35 mm.

Larval Host Plants:

Cultivated legumes (Family Leguminosae).

Distribution: Subspecies:

C. p. exiguus (Distant, 1886): Karnataka to Kerala; Sikkim to N.E. India.

Pea Blue *Lampides boeticus* (Linnaeus, 1767)

UP and UN female by Raju Kasambe

Wing span: 24–36 mm.

Larval Host Plants:

Palash *Butea monosperma*, *Crotalaria* spp., Pea *Pisum sativum*, Cowpea *Vigna sinensis*, cultivated peas and beans (Family Fabaceae).

Distribution:

Throughout India including Andaman & Nicobar Is.

Dark Cerulean *Jamides bochus* (Stoll, 1782)

UN by Raju Kasambe

Wing span: 25–34 mm.

Larval Host Plants:

Palash *Butea monosperma*, *Crotalaria* spp., *Pongamia pinnata* (Family Fabaceae), *Xylia* spp. (Family Mimosaceae).

Distribution: Subspecies:

J. b. bochus (Stoll, [1882]): Andaman & Nicobar Is. (Andamans); throughout India.

Common Cerulean *Jamides celeno* (Cramer, 1775)

UN WSF and UN DSF by Raju Kasambe

Wing span: 27–40 mm.

Larval Host Plants:

Saraca asoka (Family Caesalpiniaceae), *Abrus precatorius*, *Butea monosperma*, *Phaseolus adenanthus*, *Pongamia pinnata* (Family Fabaceae), *Xylia xylocarpa* (Family Mimosaceae), *Trichilia connaroides* (Family Meliaceae), *Elettaria cardamomum* (Family Zingiberaceae).

Distribution: Subspecies:

J. c. aelianus (Fabricius, 1793): Gujarat south to Kerala and eastward to West Bengal; Uttarakhand to N.E. India.

Large Four-Lineblue *Nacaduba pactolus* (C. Felder, 1860)



UN by Ashok Sengupta

Wing span: 27–38 mm.

Larval Host Plants:

Entada spp. (Family Fabaceae).

Distribution: Subspecies:

N. p. continentalis Fruhstorfer, 1916: Sikkim to N.E. India; Maharashtra to Kerala.

Transparent Six-Lineblue *Nacaduba kurava* (Moore, 1858)

UN By L. Shyamal



UN by J.M. Garg

Wing span: 30–38 mm.

Larval Host Plants:

Ardisia humilis, *Embelia robusta* (Family Myrsinaceae)), *Waltheria indica* (Family Sterculiaceae).

Distribution:

Subspecies: *N. k. canaraica* Toxopeus, 1927: Gujarat to Kerala.

Common Lineblue *Prosotas nora* (C. Felder, 1860)

UN and UP by Raju Kasambe

Wing span: 18–25 mm.

Larval Host Plants:

Kher *Acacia catechu*, *A. tora*, *Mimosa* spp., *Pithecellobium dulce* (Family Mimosaceae).

Distribution: Subspecies:

P. n. nora (C. Felder, 1860): Throughout India except arid regions.

Tailless Lineblue *Prosotas dubiosa* (Semper, 1879)



UN by Raju Kasambe

Wing span: 22–26 mm.

Larval Host Plants:

Acacia spp., *Mimosa pudica*, *Leucaena* spp. (Family Mimosaceae).

Distribution:

P. d. indica (Evans, [1925]): India including Andaman & Nicobar Is. (Andamans).

White-tipped Lineblue *Prosotas noreia* (R. Felder, 1868)

UN by Divakar Thombre

Wing span: 22–28 mm.

Larval Host Plants:

Data deficient.

Distribution:

P. n. hampsoni (de Niceville, 1885): Peninsular India as far north as Maharashtra; Uttarakhand to N.E.India.

Dingy Lineblue *Petrelaea dana* (De Nicéville, 1884)



UN by Raju Kasambe

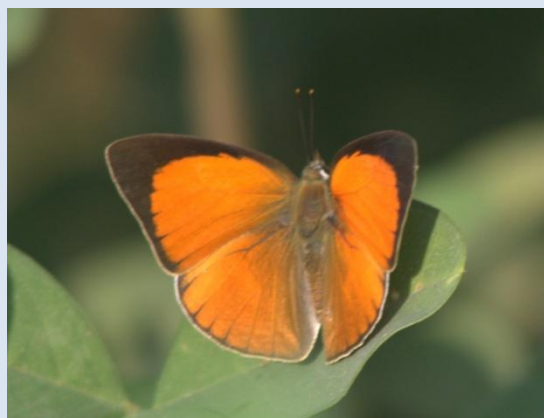
Wing span: 24–28 mm.

Larval Host Plants:

Data deficient.

Distribution:

Uttarakhand to N.E. India; Maharashtra to Kerala; Jharkhand and Andaman Is.

Indian Sunbeam *Curetis thetis* (Drury, 1773)

Clockwise from left: UN, UP Male and UP Female by Raju Kasambe

Wing span: 40–48 mm.

Larval Host Plants:

Abrus precatorius, *Derris scandens*, *Pongamia pinnata*, *Aganope thyrsiflora*, Palash *Butea monosperma* (Family Fabaceae), *Xylia dolabriformis* (Family Mimosaceae).

Distribution: Subspecies:

C. t. thetis (Drury, 1773): Gujarat east to Odisha and south to Kerala.

Siva (Shiva's) Sunbeam *Curetis siva* Evans, 1954



UN by Vengolis

Wing span: 35–40 mm.

Larval Host Plants:

Ougeinia oojeinensis (*Desmodium oojeinense*)(Family Fabaceae).

Distribution:

Goa to Kerala.

Angled Sunbeam *Curetis acuta* Moore, 1877

Clockwise from left: UN and UP Male by Raju Kasambe; UP Female by Ravi Vaidyanathan

Wing span: 35–42 mm.

Larval Host Plants:

Pongamia pinnata, Palash *Butea monosperma* (Family Fabaceae).

Distribution:

C. a. dentata Moore, 1879: Himachal Pradesh to N.E. India; Gujarat to Kerala; Madhya Pradesh to Odisha.

Silverstreak Blue *Iraota timoleon* (Stoll, 1790)

UN by Divakar Thombre

Wing span: 40–48 mm.

Larval Host Plants:

Indian Banyan *Ficus benghalensis*, Cluster Fig Tree *F. glomerata* (*F. racemosa*), Sacred Fig or Peepal Tree *F. religiosa* (Family Moraceae), *Punica granatum* (Family Lythraceae).

Distribution: Subspecies:

I. t. arsaces Fruhstorfer, 1907: Gujarat to Madhya Pradesh and Kerala.

Purple Leaf Blue *Amblypodia anita* Hewitson, 1862

Clockwise from left: UN and Female UP by Raju Kasambe; Male UP by Shyam Ghate

Wing span: 45–52 mm.

Larval Host Plants:

Olax imbricata, *O. scandens* (Family Olacaceae).

Distribution: Subspecies:

A. n. dina Fruhstorfer, 1907: Gujarat to Kerala and W. Bengal; Assam.

Many-tailed Oakblue *Thaduka multicaudata* (Moore, 1879)



UN by Prashanth Bhat

Wing span: 40–48 mm.

Larval Host Plants:

Trewia nudifolia (Family Euphorbiaceae).

Distribution:

T. m. kanara Evans, 1925: Maharashtra to Kerala.

Large Oakblue *Arhopala amantes* (Hewitson, 1862)

UN by Raju Kasambe



UN by Anila Manalil

Wing span: 45–57 mm.

Larval Host Plants:

Terminalia alata, *T. catappa*, *T. paniculata*, *Lagerstroemia microcarpa*, *L. reginae* (Family Lythraceae), *Xylia xylocarpa* (Family Mimosaceae).

Distribution: Subspecies:

A. a. amantes (Hewitson, 1862): Gujarat to Andhra Pradesh and southwards to Kerala.

Aberrant Bushblue *Arhopala abseus* (Hewitson, 1862)

(Syn. Aberrant Oakblue)



UN by Uajith

Wing span: 32–35 mm.

Larval Host Plants:

Sal tree *Shorea robusta* (Family Dipterocarpaceae).

Distribution:

A. a. indicus Riley, 1923: Karnataka; Kerala; Tamil Nadu; Uttarakhand to N.E. India.

Centaur Oakblue *Arhopala centaurus* (Fabricius, 1775)

UN by J.M. Garg

Wing span: 53–62 mm.

Larval Host Plants:

Terminalia paniculata (Family Combretaceae), *Lagerstroemia microcarpa* (Family Lythraceae), *Xylia xylocarpa* (Family Mimosaceae), *Schleichera oleosa* (Family Sapindaceae).

Distribution: Subspecies:

A. c. pirama (Moore, [1881]): Maharashtra to Kerala.

Tamil Oakblue *Arhopala bazaloides* (Hewitson, 1878)



UN by Anila Manalil

Wing span: 44–47 mm.

Larval Host Plants:

Data deficient.

Distribution:

A. b. bazaloides (Hewitson, 1878): Sikkim to N.E. India, Maharashtra to Kerala.

Common Acacia Blue *Surendra quercetorum* (Moore, 1858)



UN by Raju Kasambe

Wing span: 30–40 mm.

Larval Host Plants:

Acacia torta, *A. pennata*, *A. suma* (Family Mimosaceae).

Distribution:

S. q. quercetorum (Moore, [1858]): Uttarakhand to N.E. India.

Silver Streaked Acacia Blue *Zinaspia todara* (Moore, 1884)



UN by Anila Manalil

Wing span: 34–38 mm.

Larval Host Plants:

Acacia pennata, *A. suma*, *A. torta* (Family Mimosaceae).

Distribution:

Z. t. todara (Moore, [1884]): Goa to Kerala.

Yamfly *Loxura atymnus* (Stoll, 1780)

UN and UP by Raju Kasambe

Wing span: 36–40 mm.

Larval Host Plants:

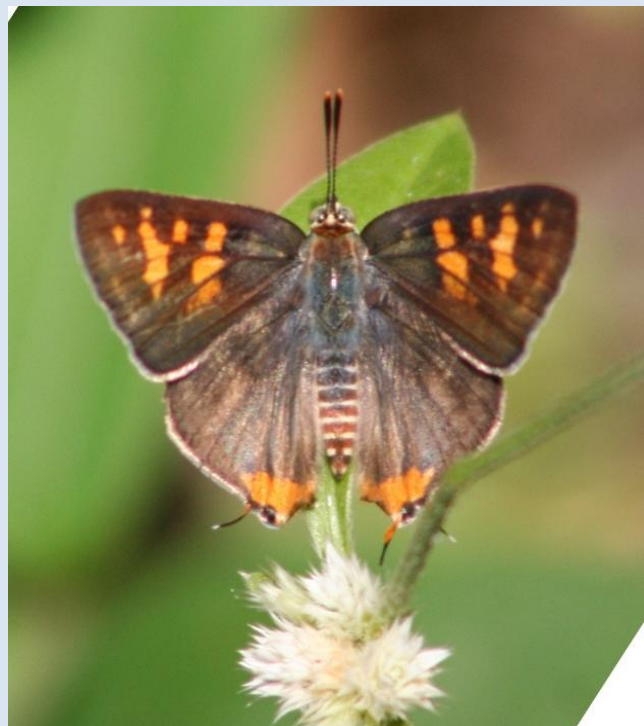
Dioscorea pentaphylla (Family Dioscoreaceae), *Smilax zeylanica*, *Smilax* spp. (Family Smilacaceae).

Distribution: Subspecies:

L. a. atymnus (Stoll, 1780): Maharashtra and Madhya Pradesh to Kerala; Uttarakhand to West Bengal & N. E. India.

Common Silverline *Spindasis vulcanus* (Fabricius, 1775)

UN Dr. Jayant Wadatkar



UP Raju Kasambe

Wing span: 26–34 mm.

Larval Host Plants:

Cadaba fruticosa (Family Capparaceae), *Ziziphus mauritiana*, *Z. rigosa* (Family Rhamnaceae), *Canthium coromandelicum* (Family Rubiaceae), *Allophylus cobbe* (Family Sapindaceae), *Clerodendrum indicum*, *C. inerme* (Family Lamiaceae).

Distribution:

S. v. vulcanus (Fabricius, 1775): Throughout India.

Long-banded Silverline *Spindasis lohita* (Horsfield, 1829)

UN and UP by Raju Kasambe

Wing span: 30–42 mm.

Larval Host Plants:

Dioscorea spp. (Family Dioscoreaceae), *Xylia* spp., *Psidium guajava* (Family Myrtaceae).

Distribution: Subspecies:

S. l. lazularia (Moore, [1881]): Maharashtra to Kerala.

Plumbeous Silverline *Spindasis schistacea* (Moore, 1881)



UN and UP by Pranav Gokhale

Wing span: 28–37 mm.

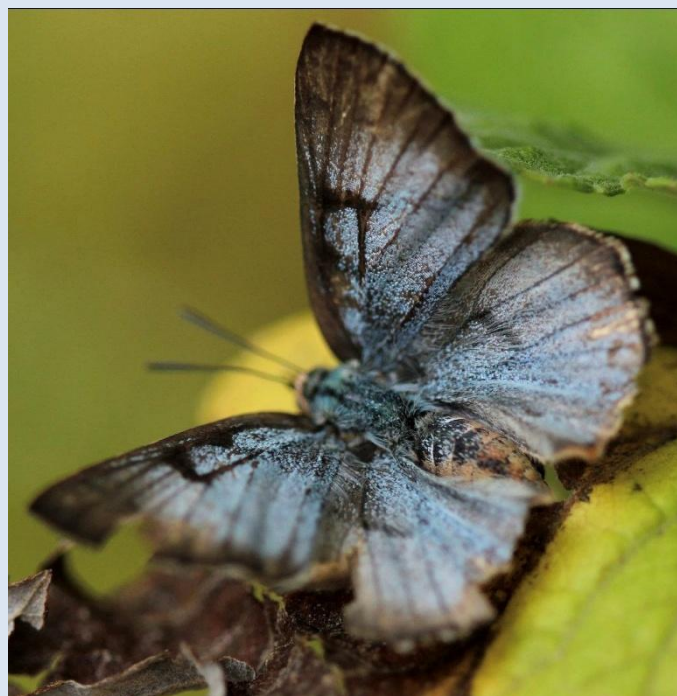
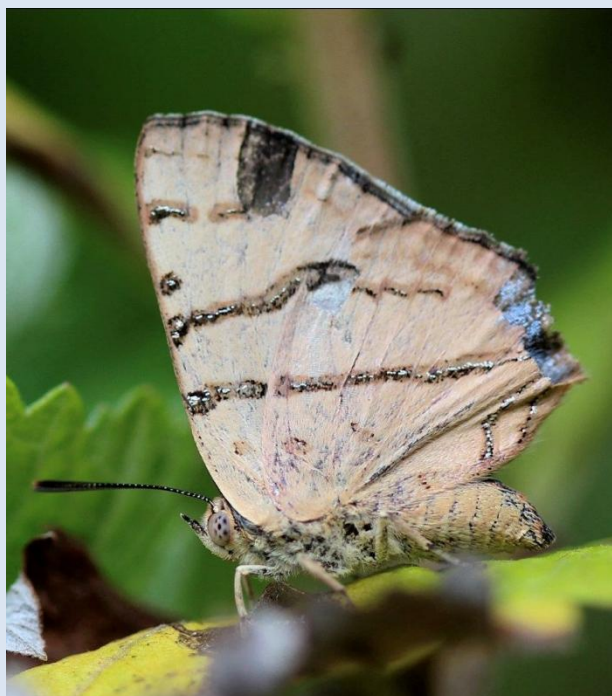
Larval Host Plants:

Data deficient.

Distribution:

Gujarat to Kerala.

Abnormal Silverline *Spindasis abnormis* (Moore, 1884)



UN and UP by Sujit Borkar



UN by Raju Kasambe

Wing span: 40–44 mm.

Larval Host Plants:

Data deficient.

Distribution:

Maharashtra to Tamil Nadu.

Common Shot Silverline *Spindasis ictis* (Hewitson, 1865)

UN and UP Female by Manidip Mandal

Wing span: 27–35 mm.

Larval Host Plants:

Dendrophthoe sp. (Family Loranthaceae)

Distribution:

S. i. ictis (Hewitson, 1865): Rajasthan northwards to Himachal Pradesh, eastwards to W. Bengal and southwards to Kerala.

Scarce Shot Silverline *Spindasis elima* (Moore, 1877)

UN and UP by Parag Giri

Wing span: 28–42 mm.

Larval Host Plants:

Data deficient.

Distribution: Subspecies:

S. e. elima (Moore, 1877): Gujarat eastwards to W. Bengal and southwards to Kerala; Himachal Pradesh to N.E. India.

Redspot *Zesius chrysomallus* Hüebner, [1819]



UN by Makarand Kulkarni

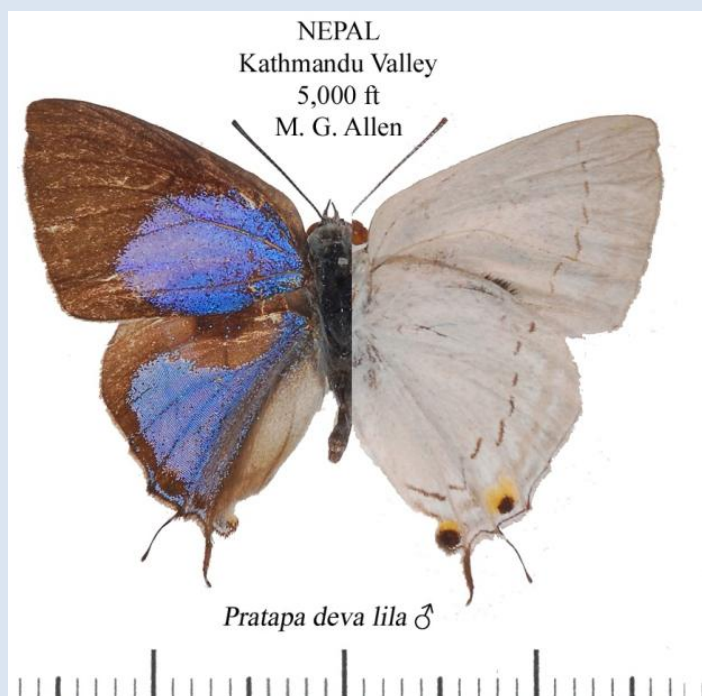
Wing span: 38–44 mm.

Larval Host Plants:

Caterpillars probably feed on ant larvae.

Distribution:

Maharashtra to Kerala; Uttarakhand; Uttar Pradesh to N.E. India.

White Royal *Pratapa deva* (Moore, 1858)

L: Specimen from Nepal by Alan Cassidy and R: UPUN by Anila Manalil

Wing span: 32–40 mm.

Larval Host Plants:

Dendrophthoe falcata, *Scurrula parasitica* (Family Loranthaceae).

Distribution: Subspecies:

P. d. deva (Moore, 1858): Madhya Pradesh; Kerala to Maharashtra; West Bengal.

Silver Royal *Ancema blanka* (De Nicéville, 1894)



UN by Pinakin Karve

Wing span: 37–42 mm.

Larval Host Plants:

Data deficient.

Distribution: Subspecies:

A. b. sudica (Evans, 1926): Maharashtra to Kerala.

Peacock Royal *Tajuria cippus* (Fabricius, 1798)

UN by Raju Kasambe



UP by Vedant Kasambe

Wing span: 31–45 mm.

Larval Host Plants:

Dendrophthoe falcata, *Helicanthus elastica*, *Helixanthera wallichiana* (Family Loranthaceae).

Distribution:

T. c. cippus (Fabricius, 1798): Andaman & Nicobar Is. (Andamans); throughout India except arid regions.

Spotted Royal *Tajuria maculata* (Hewitson, 1865)



UN by Dr. V.C. Balakrishnan

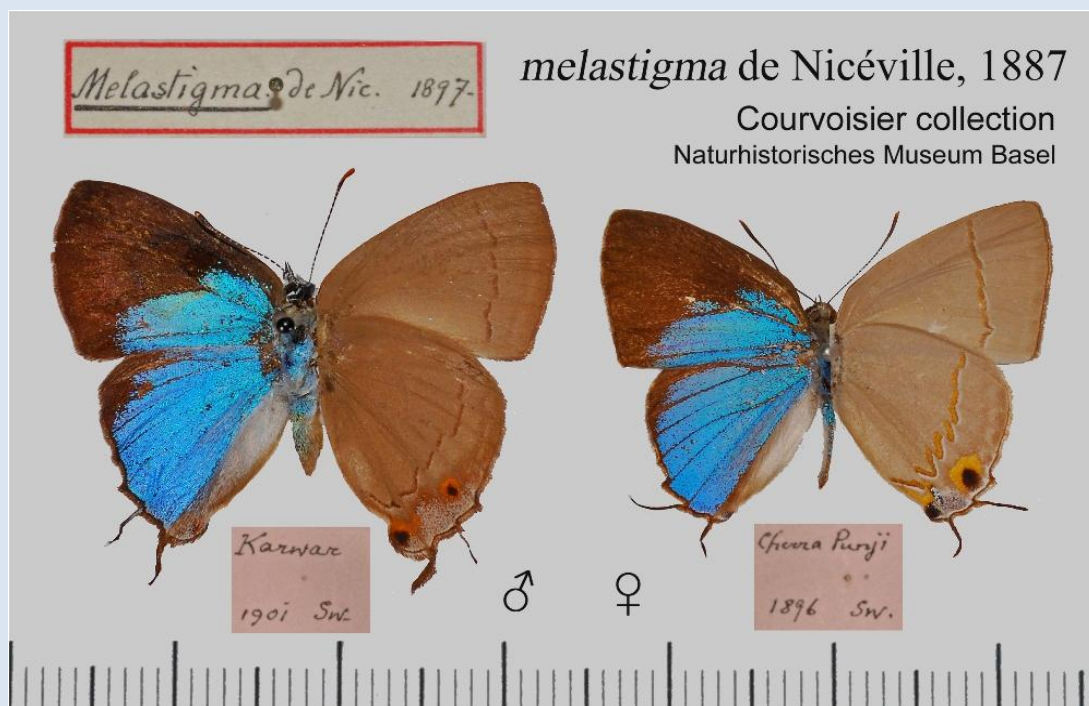
Wing span: 36–44 mm.

Larval Host Plants:

Dendrophthoe spp. (Family Loranthaceae).

Distribution:

Sikkim to N.E. India, Tamil Nadu, Karnataka, Kerala.

Branded Royal *Tajuria melastigma* (de Niceville, 1884)

Specimen from Karwar and Cherrapunji illustrations by Alan Cassidy

Wing span: 40–46 mm.

Larval Host Plants:

Dendrophthoe spp. (Family Loranthaceae).

Distribution:

Goa to Kerala; Uttarakhand to N.E. India.

Banded Royal *Eliotiana jalindra* (Horsfield, 1829)



UN by Praveen G Nair

Wing span: 36–44 mm.

Larval Host Plants:

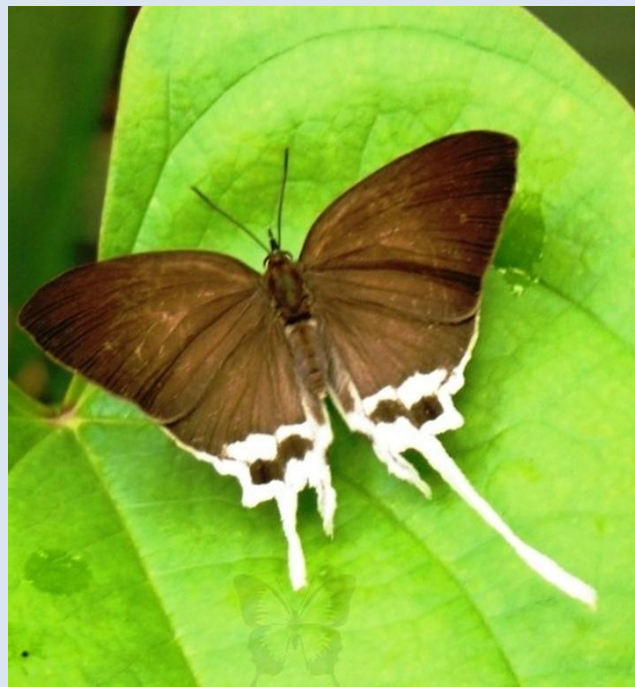
Dendrophthoe elastica (Family Loranthaceae).

Distribution:

Subspecies: *E. j. macanita* Fruhstorfer, 1912: Goa to Kerala.

Common Imperial *Cheritra freja* (Fabricius, 1793)

UN by Raju Kasambe



UP by Anila Manalil

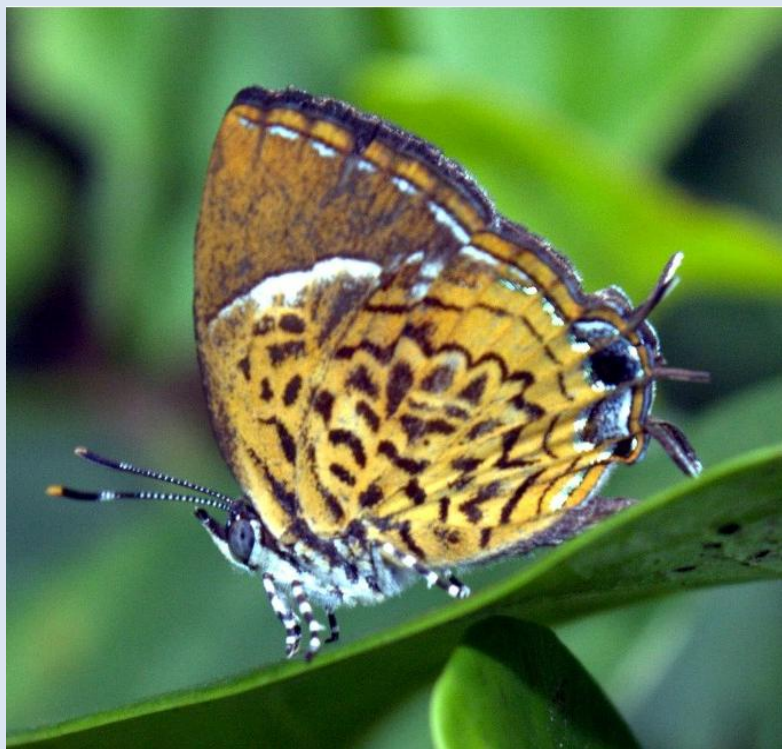
Wing span: 38–42 mm.

Larval Host Plants:

Cinnamomum spp., (Family Lauraceae), *Xylia xylocarpa* (Family Mimosaceae), *Lepisanthes tetraphylla* (Family Sapindaceae).

Distribution: Subspecies:

C. f. butleri Cowan, 1965: Maharashtra to Kerala.

Monkey Puzzle *Rathinda amor* (Fabricius, 1775)

UN and UP by Raju Kasambe

Wing span: 26–28 mm.

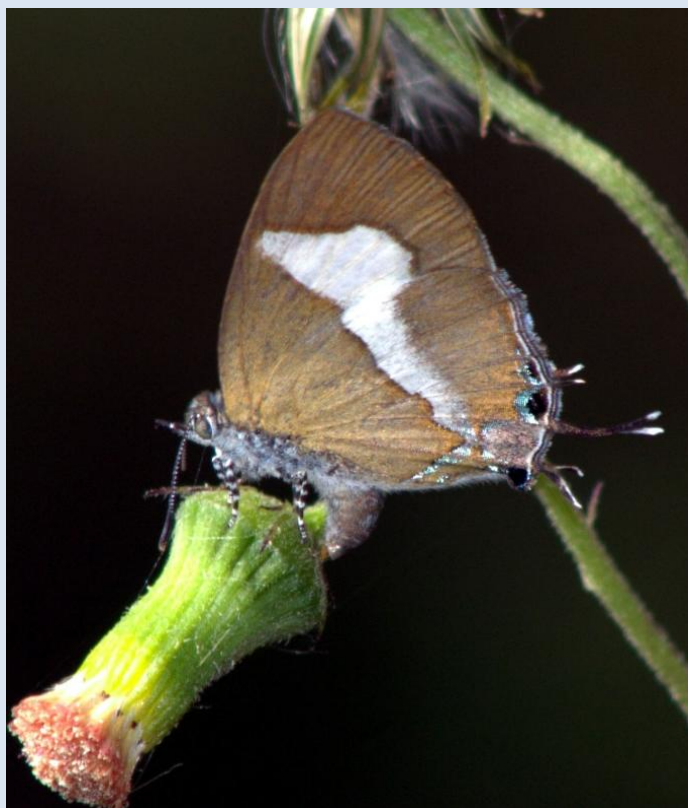
Larval Host Plants:

Ixora spp. (Family Rubiaceae), *Mangifera indica* (Family Anacardiaceae), *Barringtonia acutangula* (Family Lecythidaceae), *Schleichera oleosa* (Family Sapindaceae) and plants belonging to families Dipterocarpaceae, Euphorbiaceae, Loranthaceae, and Myrtaceae.

Distribution:

Kerala to N.E. India.

Common Onyx *Horaga onyx* (Moore, 1858)



UN and UP by Raju Kasambe

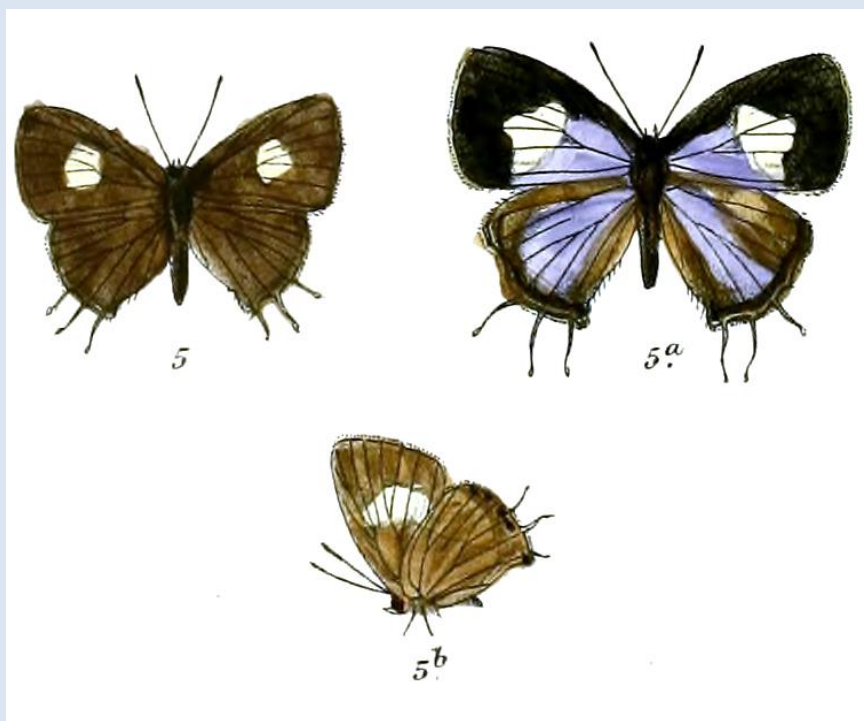
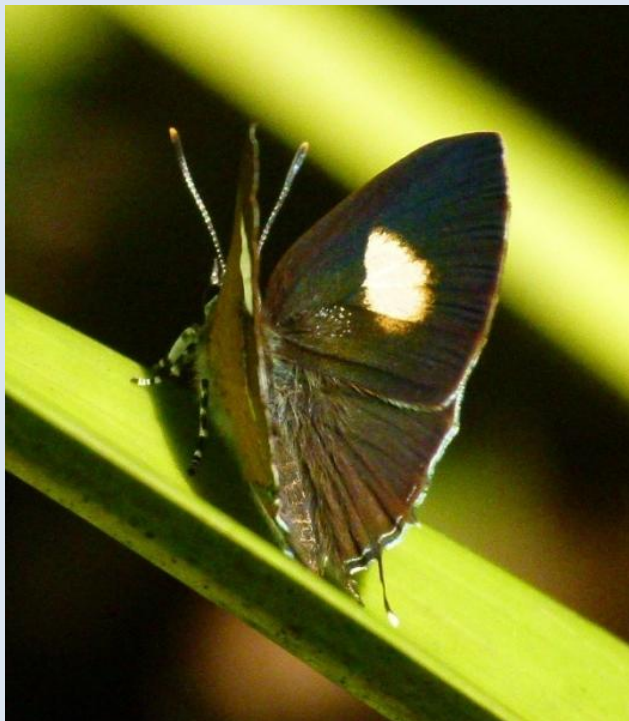
Wing span: 27–33 mm.

Larval Host Plants:

Coriaria nepalensis (Family Coriariaceae).

Distribution: Subspecies:

H. o. cingalensis Moore, 1884: Maharashtra to Kerala.

Brown Onyx *Horaga viola* Moore, 1882

Left: UP by L. Shyamal; Right: Illustration from *Lepidoptera Indica*. Volume 9. Author: C. Swinhoe (text); J N Fitch (art)

Wing span: 22–28 mm.

Larval Host Plants:

Coriaria nepalensis (Family Coriariaceae).

Distribution:

S. India, Himachal Pradesh to N.E. India.

Common Tinsel *Catapaecilma elegans* Druce, 1895



UN by Hemant Ogale

Wing span: 28–32 mm.

Larval Host Plants:

Terminalia paniculata, *T. arjuna* (Family Combretaceae), *Ziziphus rugosa* (Family Rhamnaceae).

Distribution: Subspecies:

C. m. callone Fruhstorfer, 1915: Maharashtra to Kerala.

Orchid Tit *Chliaria othona* (Hewitson, 1865)



UN and UP by Raju Kasambe

Wing span: 24–27 mm.

Larval Host Plants:

Epiphytic orchids.

Distribution:

Maharashtra to Kerala; Uttarakhand to N.E. India; Andaman Is.

Nilgiri Tit *Hypolycaena nilgirica* (Moore, 1884)



UN by R. Ravi

Wing span: 28–32 mm.

Larval Host Plants:

Data deficient.

Distribution:

Karnataka; Kerala; Tamil Nadu.

Fluffy Tit *Zeltus amasa* (Hewitson, 1865)



UN and UP by Raju Kasambe

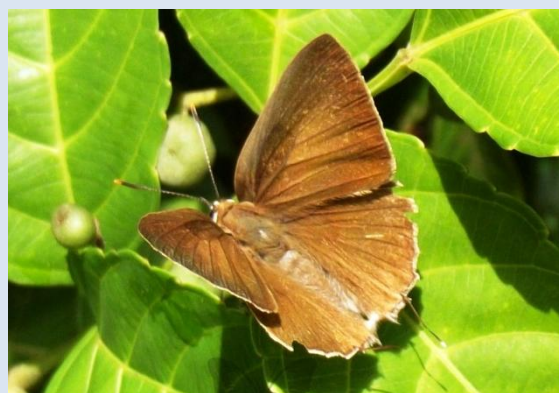
Wing span: 28–32 mm.

Larval Host Plants:

Data deficient.

Distribution:

Goa to Kerala; Sikkim to N.E. India.

Cornelian *Deudorix epijarbas* (Moore, 1857)

Clockwise from left: UN by Raju Kasambe, Female UP by Anila Manalil and Male UP by Divakar Thombre

Wing span: 34–44 mm.

Larval Host Plants:

Connarus wightii (Family Connaraceae), Pomegranate *Punica granatum* (Family Lythraceae), *Aesculus indica*, Litchi *Litchi chinensis*, *Sapindus marginatus*, *S. trifolius* (Family Sapindaceae).

Distribution: Subspecies:

D. e. epijarbas (Moore, 1857): South India to West Bengal.

Common Guava Blue *Virachola isocrates* (Fabricius, 1793)

UN by Raju Kasambe

Wing span: 34–50 mm.

Larval Host Plants:

Tamarind *Tamarindus indica* (Family Fabaceae), Nux vomica *Strychnos nux-vomica* (Family Loganiaceae), Common Guava *Psidium guajava* (Family Myrtaceae), Pomegranate *Punica granatum* (Family Lythraceae), *Catunaregam spinarum*, *Gardenia latifolia* (Family Rubiaceae).

Distribution:

Throughout India.

Large Guava Blue *Virachola perse* (Hewitson, 1863)



UN by Raju Kasambe

Wing span: 48–52 mm.

Larval Host Plants:

Catunaregam spinarum (Family Rubiaceae).

Distribution: Subspecies:

V. p. ghela Fruhstorfer, 1912: Maharashtra to Kerala.

Indigo Flash *Rapala varuna* (Horsfield, [1829])

UN by Aditya Joshi

Wing span: 28–29 mm.

Larval Host Plants:

Rangoon creeper or Madhumalti *Quisqualis indica* (Syn. *Combretum indicum*)(Family Combretaceae), *Ziziphus rugosa*, *Z. xylopyrus* (Family Rhamnaceae), *Ritha Sapindus laurifolius* (Family Sapindaceae), *Lantana camara* (Family Verbenaceae).

Distribution: Subspecies:

R. v. lazulina (Moore, 1879): Maharashtra to Kerala, West Bengal.

Slate Flash *Rapala manea* (Hewitson, 1863)

UN by Raju Kasambe

Wing span: 30–33 mm.

Larval Host Plants:

Rangoon creeper or Madhumalti *Quisqualis indica* (Syn. *Combretum indicum*) (Family Combretaceae), *Antidesma acidum* (Family Phyllanthaceae), *Acacia pennata*, *A. torta* (Family Mimosaceae), *Sorbaria sorbifolia* (Family Rosaceae), *Camelia sinensis* (Family Theaceae), *Trema orientalis* (Family Cannabaceae), *Duabanga grandiflora* (Family Lythraceae).

Distribution:

R. m. schistacea (Moore, 1879): Throughout India; Andaman & Nicobar Is. (Andamans).

Common Red Flash *Rapala iarbus* (Fabricius, 1787)

UN by Raju Kasambe



UP by Tarun Karmakar

Wing span: 33–44 mm.

Larval Host Plants:

Ougeinia dalbergioides (Syn. *O. oojeinensis* or *Desmodium oojeinense*) (Family Fabaceae), *Melastoma malabathricum* (Melastomataceae), *Ziziphus rugosa* (Family Rhamnaceae), *Nephelium lappaceum* (Family Sapindaceae).

Distribution: Subspecies:

R. i. sorya (Kollar, [1844]): Jammu & Kashmir; Odisha; Punjab; Peninsular India; Uttarakhand; Uttar Pradesh and W. Bengal.

Malabar Flash *Rapala lankana* (Moore, 1879)



UN by Vinayaraj



UN by Dr. Prashanth Bhat

Wing span: 38–41 mm.

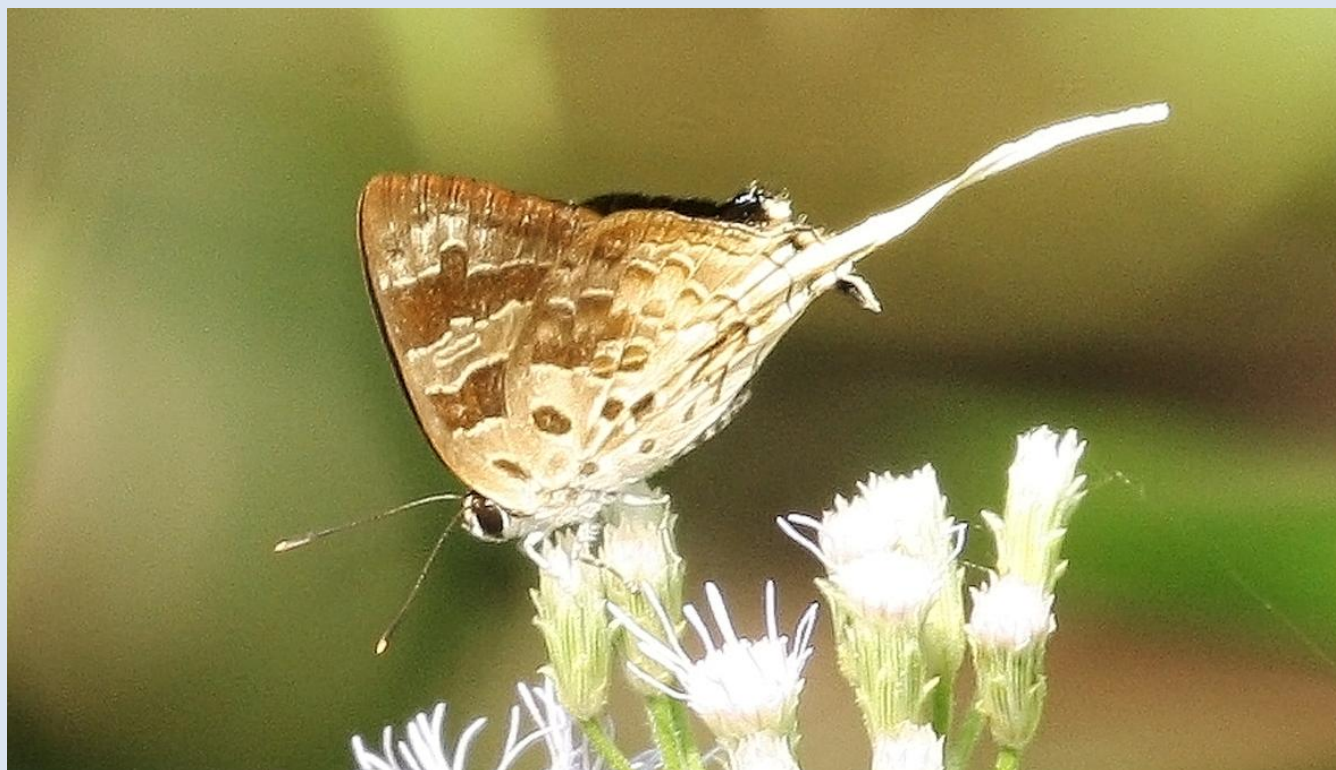
Larval Host Plants:

Data deficient.

Distribution:

Karnataka, Kerala, Tamil Nadu.

Plane *Bindahara phocides* (Fabricius, 1793)



UN by Raju Kasambe

Wing span: 36–42 mm.

Larval Host Plants:

Fruit of *Salacia* spp. (Family Celastraceae).

Distribution:

Subspecies: *B. p. moorei* Fruhstorfer, 1904: Goa to Kerala.

Family Facts

Family Nymphalidae: Brush-footed Butterflies

The family is known as the Brush-footed butterflies because the forelegs of the adults are small and hairy resembling tiny brushes, and are not used for walking.

The butterflies in this family vary considerably in their appearance in all stages of the life cycle (adult, eggs, larval, pupal), but generally can be characterized by the following, 1) size of the forelegs is reduced (except female of Beaks), thus they use only four legs to walk or perch; 2) medium to large in size and brightly and/or uniquely marked; 3) the pattern of wing veins of the forewing is unique; and 4) the rigid antennae have club shaped tips.

Interesting traits demonstrated by some members of this family include long distance migrations (Painted Lady, milkweeds like Tigers, Crows), territoriality, powerful flight (Nawabs, Rajahs) or weak flight (Rings, Bushbrowns).

Eggs vary in shape and in their arrangement on the plant. Caterpillars vary considerably in their appearance, but are often hairy or spiny. Pupae have a cremaster from which they are suspended upside down, but have no silk girdle and form no cocoon.

Common Beak *Libythea lepita* (Moore, 1858)

UN by Dhaval Momaya

Wing Span: 45–50 mm.

Larval Host Plants:

Gossypium herbaceum (Family Malvaceae), *Grewia* sp. (Family Tiliaceae),
Celtis australis (Family Ulmaceae).

Distribution: Subspecies:

L. l. lepitoidea Moore, 1901: Gujarat to Kerala.

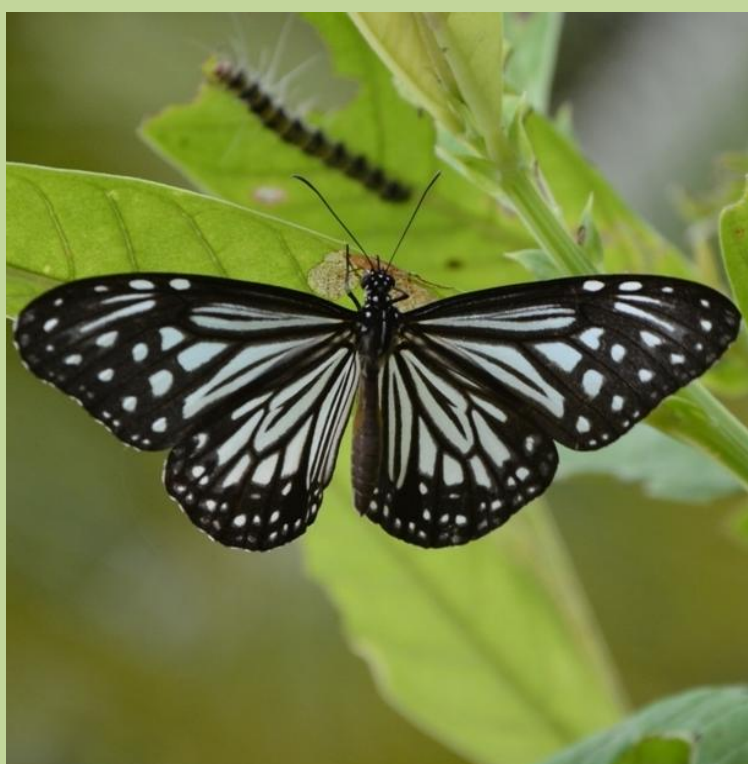
Club Beak *Libythea myrrha* (Godart, 1819)

UN by Sagar Sarang



UP by Dhaval Momaya

Wing Span: 45–55 mm.**Larval Host Plants:***Celtis australis*, *C. tetrandra* (Family Ulmaceae).**Distribution: Subspecies:***L. m. rama* Moore, 1872: Maharashtra to Kerala; Andhra Pradesh.

Glassy Tiger *Parantica aglea* (Stoll, 1782)

UN and UP by Raju Kasambe

Wing Span: 70–85 mm.

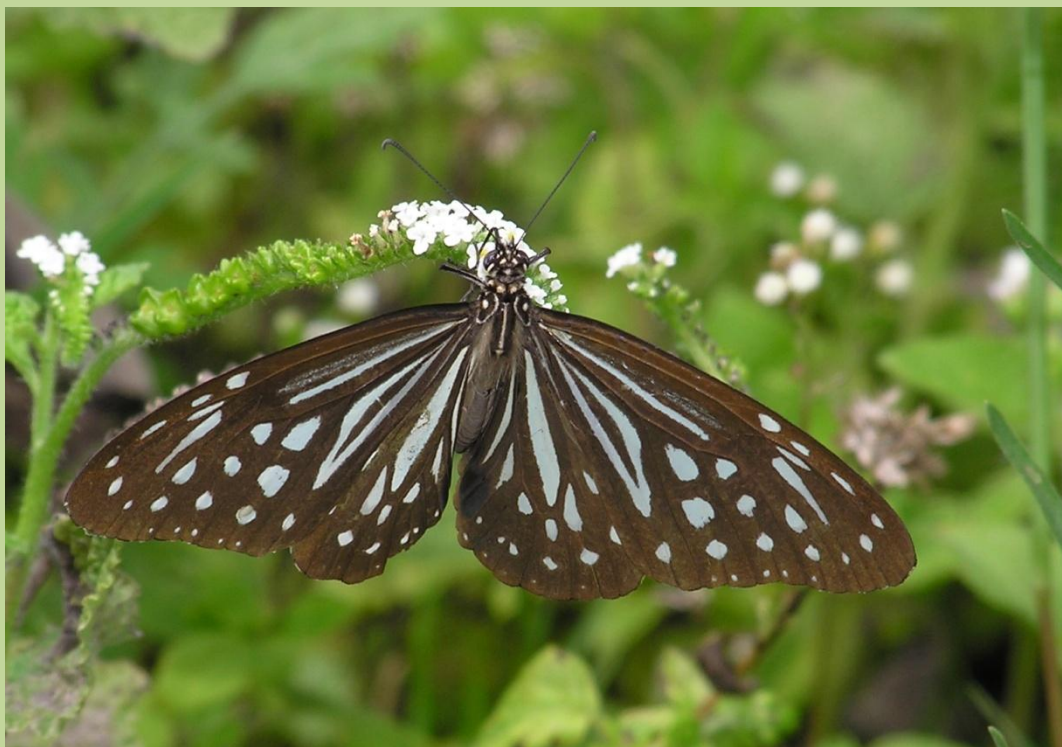
Larval Host Plants:

Calotropis sp., *Ceropegia sp.*, *Cryptolepis buechanani*, *Tylophora indica*, *T. tenuis* (Family Asclepiadaceae).

Distribution: Subspecies:

P. a. aglea (Stoll, [1782]): Gujarat to Kerala; Chhattisgarh; Odisha; W. Bengal.

Nilgiri Tiger *Parantica nilgiriensis* (Moore, 1877)



UP by Kishen Das

Wing Span: 80–90 mm.

Larval Host Plants:

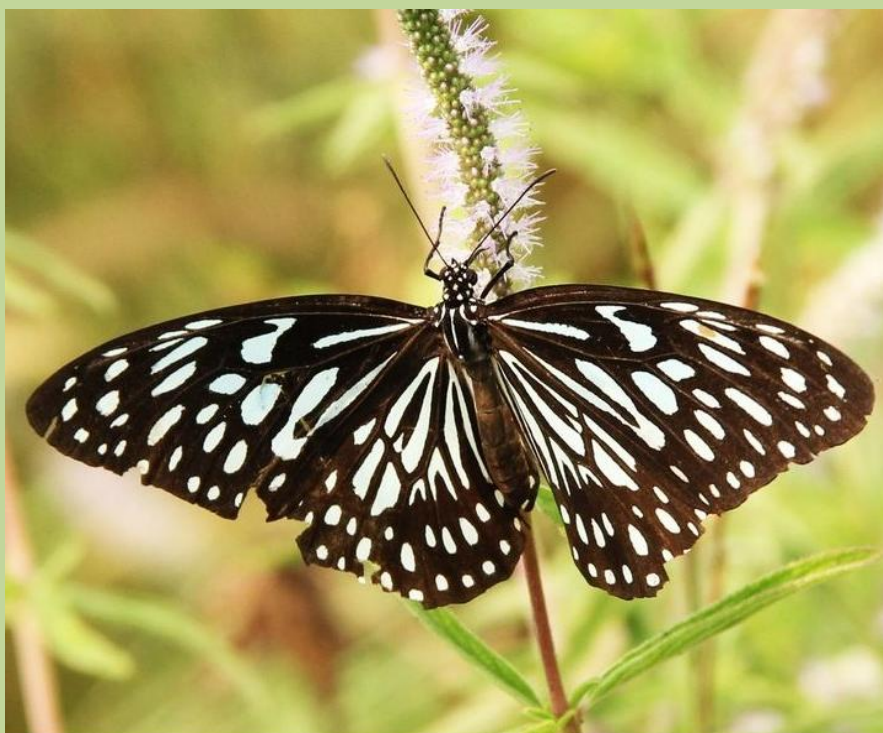
Tylophora tenuis and *T. indica*.

Distribution:

Karnataka; Kerala; Tamil Nadu.

Dark Blue Tiger *Tirumala septentrionis* (Butler, 1874)

UN by Raju Kasambe



UP by Anila Manalil

Wing Span: 75–95 mm.

Larval Host Plants:

Vallaris dichotoma, *V. heynei* (Family Apocynaceae), *Cosmostigma racemosa*, and *Wattakaka volubilis* (Family Asclepiadaceae).

Distribution: Subspecies:

T. s. dravidarum (Fruhstorfer, 1899): Gujarat east to Odisha and south to Kerala.

Blue Tiger *Tirumala limniace* (Cramer, 1775)

UP and Male UN by Raju Kasambe

Wing Span: 90–100 mm.

Larval Host Plants:

Asclepias currassavica, *Calotropis procera*, *Heterostemma* sp., *Hoya viridiflora*, *Tylophora indica*, *Wattakaka volubilis* (Family Asclepiadaceae)

Distribution:

T. l. exoticus (Gmelin, 1790): Throughout India including Lakshadweep; Andaman & Nicobar Is.

Plain Tiger *Danaus chrysippus* (Linnaeus, 1758)

UP and UN by Raju Kasambe

Wing Span: 70–80 mm.

Larval Host Plants:

Asclepias curassavica (milkweeds), *Calotropis gigantea*, *C. procera*, *Caralluma* sp., *Ceropegia* sp., *Cynanchum* sp., *Frerea indica*, *Tylophora* sp. (Family Asclepiadaceae). *Ficus racemosa* (Family Moraceae), *Cryptolepis buchananii* (Family Apocynaceae) etc.

Distribution:

D. c. chrysippus (Linnaeus, 1758): Throughout India.

Common Tiger *Danaus genutia* (Cramer, 1779)
(Syn. Striped Tiger)



UP and UN by Raju Kasambe

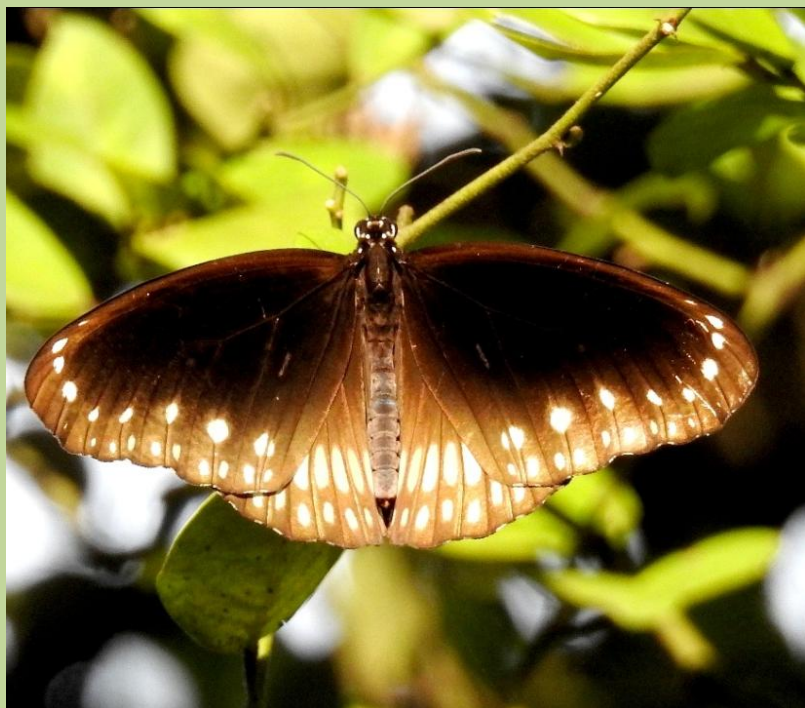
Wing Span: 72–100 mm.

Larval Host Plants:

Asclepias currassavica, *Ceropegia* sp., *Cynanchum* sp., *Marsdenia roylei*,
Stepahnotis sp., *Tylophora tenuis* (Family Asclepiadaceae).

Distribution:

D. g. genutia (Cramer, [1779]): Throughout India.

Common Crow *Euploea core* (Cramer, 1780)**(Syn. Common Indian Crow)**

UP and UN by Raju Kasambe

Wing Span: 85–95 mm.**Larval Host Plants:**

Holarrhena pubescens, *Ichnocarpus frutescens*, *Nerium indicum*, *Nerium oleander*, *Calotropis gigantea* (Family Apocynaceae), *Asclepias curassavica*, *Cryptolepis buchanani*, *Hemidesmus indicus*, *Tylophora indica* (Family Ascepiadaceae, Milkweeds), *Ficus sp.*, *Streblus asper* (Family Moraceae, Figs).

Distribution: Subspecies:

E. c. core (Cramer, [1780]): Throughout India.

Double-branded Crow *Euploea sylvester* (Fabricius, 1793)

UP and UN by Dattaprasad Sawant

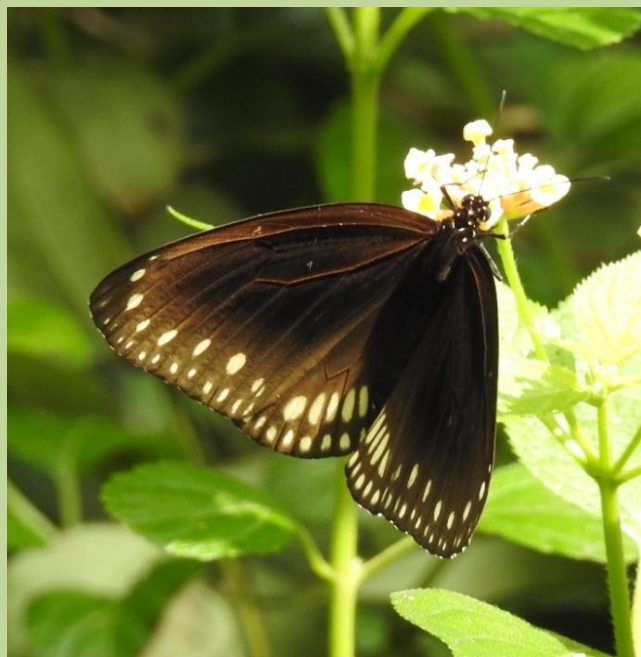
Wing Span: 95–105 mm.

Larval Host Plants:

Hoya sp., *Cynanchum sp.* (Family Asclepiadaceae, Milkweeds), *Ichnocarpus frutescens* (Family Apocynaceae), *Ficus microcarpa*, *Ficus racemosa* (*F. glomerata*), *Ficus sp.* (Family Moraceae, Figs).

Distribution: Subspecies:

E. s. coreta (Godart, 1819): Peninsular India.

King Crow *Euploea klugii* Moore, [1858]**(Syn. Brown King Crow)**

UP and UN by Raju Kasambe

Wing Span: 85–100 mm.**Larval Host Plants:***Streblus asper*, *Ficus hispida*, and *Ficus sp.* (Family Moraceae).**Distribution: Subspecies:***E. k. kollari* C. & R. Felder, [1865]: Gujarat eastwards to W. Bengal and Odisha.

Malabar Tree Nymph *Idea malabarica* (Moore, 1877)

UP by Raju Kasambe



UN by Ashok Sengupta

Wing Span: 110–160 mm.

Larval Host Plants:

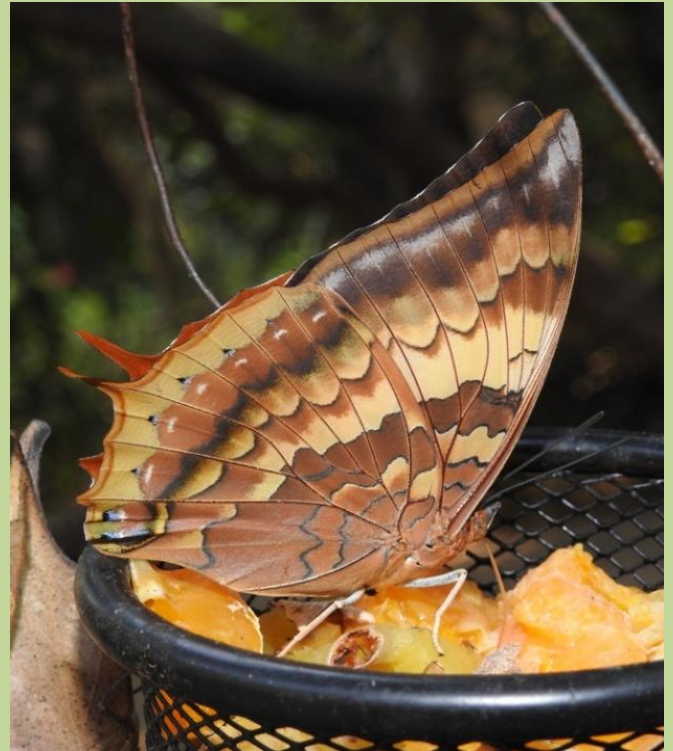
Aganosoma cymosa, *Parsonsia spiralis* (Family Apocynaceae).

Distribution: Subspecies:

I. m. kanarensis (Moore, 1890): Maharashtra to north Karnataka.

Subspecies:

I. m. malabarica (Moore, 1877): Southern Karnataka to Kerala.

Plain Tawny Rajah *Charaxes psaphon* Westwood, 1847

UN Female and UN Male by Raju Kasambe

Wing Span: 85–110 mm.

Larval Host Plants:

Tamarindus indica (Family Caesalpiniaceae), *Dalbergia sp.*, (Family Fabaceae), *Aglaia roxburghiana* (Family Meliaceae), *Adenanthera pavonina*, *Albizia sp.* (Family Mimosaceae).

Distribution: Subspecies:

Ch. p. imna Butler, 1870: Peninsular India as far north as Gujarat; Madhya Pradesh; Odisha to N. E. India.

Note: The similar looking Tawny Rajah *Charaxes bernardus* (Fabricius, 1793) is found in Sikkim to N.E. India; Uttarakhand and Andaman Is.

Black Rajah *Charaxes solon* (Fabricius, 1793)

UN and UP by Raju Kasambe

Wing Span: 70–80 mm.

Larval Host Plants:

Bauhinia racemosa, *Moullava spicata*, *Tamarindus indica* (Family Caesalpiniaceae).

Distribution: Subspecies:

Ch. s. solon (Fabricius, 1793): Rajasthan to Kerala; Delhi; Himachal Pradesh to Sikkim and W. Bengal.

Common Nawab *Polyura athamas* (Drury, 1773)

UN by Raju Kasambe

Wing Span: 60–75 mm.

Larval Host Plants:

Caesalpinia bonduc, *C. major*, *Delonix regia* (Gulmohar) (Family Caesalpiniaceae), *Acacia chundra*, *A. pennata*, *A. catechu*, *Adenanthera pavonia*, *Albizia julibrissin*, *A. lebbek* (Siris), *Peltophorum pterocarpum* (Copperpod) and *Pithecellobium dulce* (Monkeypod), *Grewia* spp., *Leucaena leucocephala* (Subabul) (Family Mimosaceae).

Distribution: Subspecies:

P. a. athamas (Drury, [1773]): Himachal Pradesh to N.E. India; peninsular India south of Gujarat and Jharkhand.

Blue Nawab *Polyura schreiberi* (Godart, 1824)

UN by Aditya Joshi

Wing Span: 90–100 mm.

Larval Host Plants:

Moullava spicata (Family Caesalpiniaceae), *Rourea santaloides* (Family Connaraceae), *Adenanthera pavonia* (Family Mimosaceae).

Distribution: Subspecies:

P. s. wardii (Moore, 1896): Maharashtra to Kerala.

Anomalous Nawab *Polyura agraria* (Swinhoe, 1887)

UN by Raju Kasambe

Wing Span: 95–100 mm.

Larval Host Plants:

Data deficient.

Distribution:

P. a. agraria (Swinhoe, 1887): Gujarat to Madhya Pradesh and Kerala; Himachal Pradesh to N.E. India.

Southern Duffer *Discophora lepida* Moore, 1857

UN by Raghu

Wing Span: 85–100 mm.

Larval Host Plants:

Bamboos (Family Poaceae).

Endemicity: Endemic to Western Ghats and Sri Lanka.

Distribution:

D. l. lepida Moore, 1857: Goa to Kerala.

Common Palmking *Amathusia phidippus* (Linnaeus, 1763)

UN by Richard Parker

Wing Span: 100–125 mm.

Larval Host Plants:

Borassus flabellifer, *Cocos nucifera* (Family Arecaceae).

Distribution:

A. p. friderici Fruhstorfer, 1904: Kerala.

Whitebar Bushbrown *Mycalesis anaxias* Hewitson, 1862

WSF and DSF by Raju Kasambe

Wing Span: 48–55 mm.

Larval Host Plants:

Data deficient.

Distribution: Subspecies:

M. a. anaxias Hewitson, 1862: Karnataka to Kerala.

Long-brand Bushbrown *Mycalesis visala* Moore, 1858

Clockwise from left: WSF UN by Raju Kasambe, UP by Ms. Marvelyn Dias, DSF UN by Shyam Ghate

Wing Span: 45–55 mm.

Larval Host Plants:

Data deficient.

Distribution: Subspecies:

M. v. subdita (Moore, [1890]): Kerala to Odisha.

Subspecies:

M. v. visala Moore, [1858]: Uttarakhand to N.E. India; Gujarat to ?Goa and Madhya Pradesh to W. Bengal.

Note on tentative placement: *subdita* Moore, 1890 is sometimes treated as a good species) (Varshney & Smetacek, 2015).

Blind-eye Bushbrown *Heteropsis mamerta* (Moore, [1891])

(Syn. Palni Bushbrown *Heteropsis davisonii* (Moore, [1891])



UN by Anila Manalil

Wing Span: 45–50 mm.

Larval Host Plants:

Data deficient.

Distribution:

Subspecies: *H. m. davisonii* (Moore, [1891]): Kerala and Tamil Nadu.

Note: Treated as a full species Palni Bushbrown *Heteropsis davisonii* (Moore, [1891]) by Kehimkar (2016).

Red-disc Bushbrown *Mycalesis oculus* Marshall, 1881



UN by Anila Manalil



UP by David Raju

Wing Span: 45–60 mm.

Larval Host Plants:

Data deficient.

Distribution:

Kerala and Tamil Nadu.

Glad-eye Bushbrown *Mycalesis patnia* Moore, 1857



UN by Raju Kasambe



UP by Anila Manalil

Wing Span: 40–45 mm.

Larval Host Plants:

Data deficient.

Endemicity:

Endemic to Western Ghats and Sri Lanka.

Distribution:

M. p. junonia Butler, 1868: Goa to Kerala.

Common Bushbrown *Mycalesis perseus* (Fabricius, 1775)

UN WSF and UN DSF by Raju Kasambe

Wing Span: 38–55 mm.

Larval Host Plants:

Oryza spp. and grass spp. (Family Poaceae).

Distribution: Subspecies:

M. p. tabitha (Fabricius, 1793): Peninsular India south of the Himalaya to Kerala.

Dark-brand Bushbrown *Mycalesis mineus* (Linnaeus, 1758)

UN WSF and UP by Raju Kasambe

Wing Span: 40–50 mm.

Larval Host Plants:

Oryza spp. and grass spp. (Family Poaceae).

Distribution: Subspecies:

M. m. polydecta (Cramer, [1777]): Peninsular India from Gujarat to W. Bengal to Kerala; Lakshdweep.

Common Treebrown *Lethe rohria* (Fabricius, 1787)

UN by Raju Kasambe

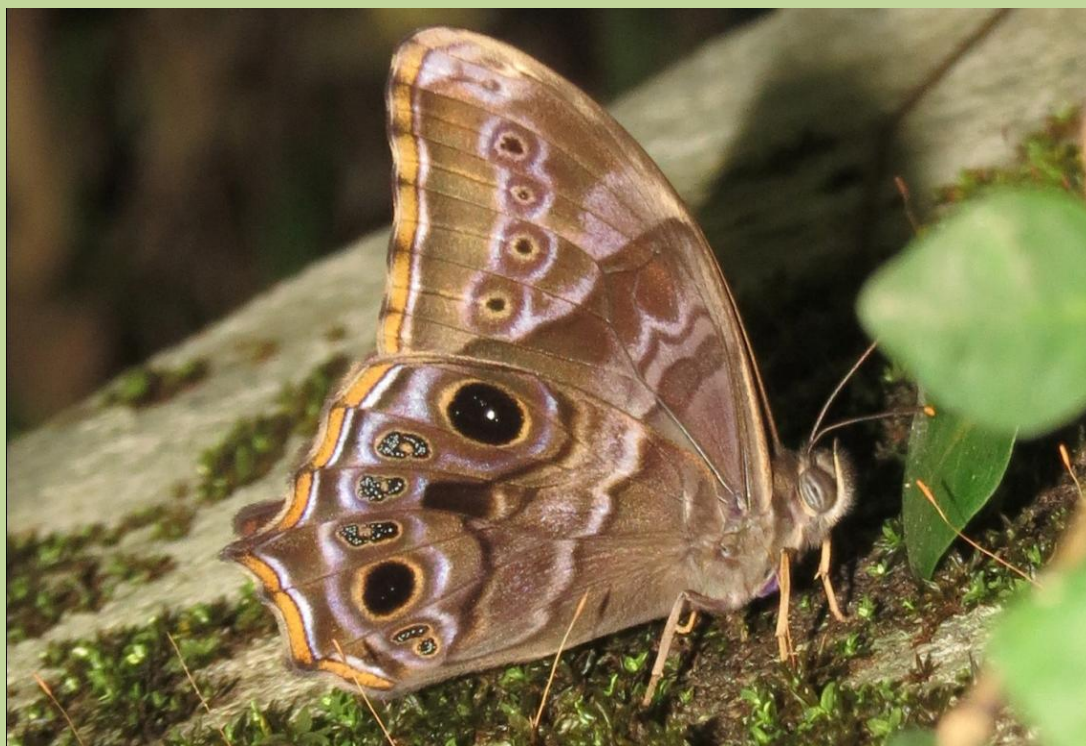
Wing Span: 58–70 mm.

Larval Host Plants:

Apluda spp., *Capillipedium* spp., *Imperata cylindrica*, *Microstegium ciliatum* (Family Poaceae).

Distribution: Subspecies:

L. r. neelgheriensis (Guerin-Meneville, 1843): Rajasthan east to West Bengal and south to Kerala.

Tamil Treebrown *Lethe drypetis* (Hewitson, 1863)

UN by Vinayaraj

Wing Span: 65–70 mm.

Larval Host Plants:

Bambusa arundinacea (Family Poaceae).

Distribution:

L. d. todara Moore, 1881: Goa to Kerala; Chhattisgarh and Odisha..

Bamboo Treebrown *Lethe europa* (Fabricius, 1775)

UN by Raju Kasambe

Wing Span: 65–75 mm.**Larval Host Plants:***Bambusa* spp., *Microstegium ciliatum* (Family Poaceae).**Distribution: Subspecies:***L. e. ragalva* Fruhstorfer, 1911: Gujarat eastwards to Odisha and southwards to Kerala.

Common Threering *Ypthima asterope* (Klug, 1832)

UN by Raju Kasambe

Wing Span: 30–37 mm.

Larval Host Plants:

Cynodon spp. (Family Poaceae).

Distribution:

Y. a. mahratta Moore, 1884: Throughout India.

(**Note** on tentative placement: *Y. mahratta* may be a good species) (Varshney & Smetacek, 2015).

Common Fivering *Ypthima baldus* (Fabricius, 1775)

Clockwise from top left: UN WSF and UN DSF and UP by Raju Kasambe

Wing Span: 32–48 mm.

Larval Host Plants:
Data deficient.

Distribution: Subspecies:

Y. b. madrasa Evans, 1924: Gujarat to Kerala.

White Fourring *Ypthima ceylonica* Hewitson, 1865

UN by Raju Kasambe



UP by K. Mohan Raj

Wing Span: 30–35 mm.

Larval Host Plants:

Data deficient.

Distribution:

Y. c. ceylonica Hewitson, 1865: Goa eastwards to Odisha and southwards to Kerala.

Nilgiri Fourring *Ypthima chenui* (Guérin-Méneville, 1843)

UN by Aditya Joshi

Wing Span: 36–46 mm.

Larval Host Plants:

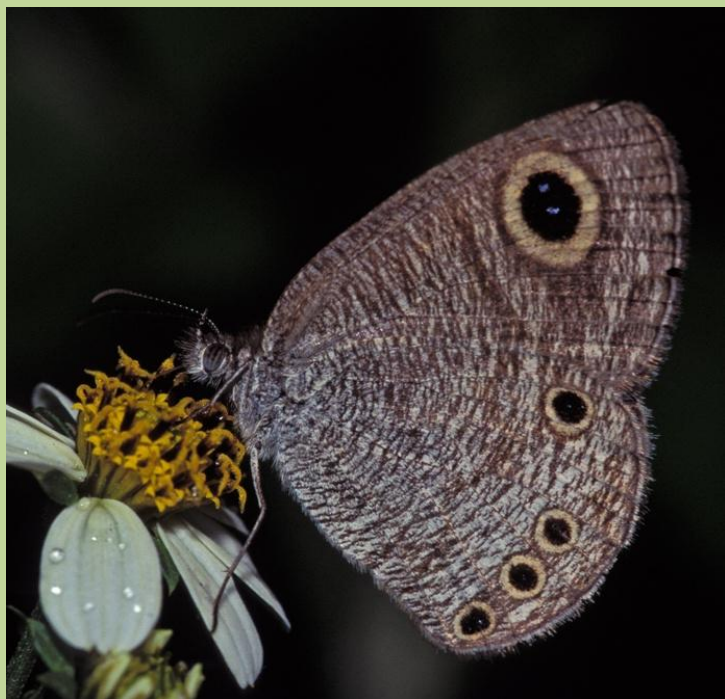
Data deficient.

Endemicity:

Endemic to Western Ghats (Karnataka southwards).

Distribution:

Karnataka and Tamil Nadu.

Common Fourring *Ypthima huebneri* Kirby, 1871

UN and UP by Dr. M.S. Mayilavahanan

Wing Span: 30–40 mm.

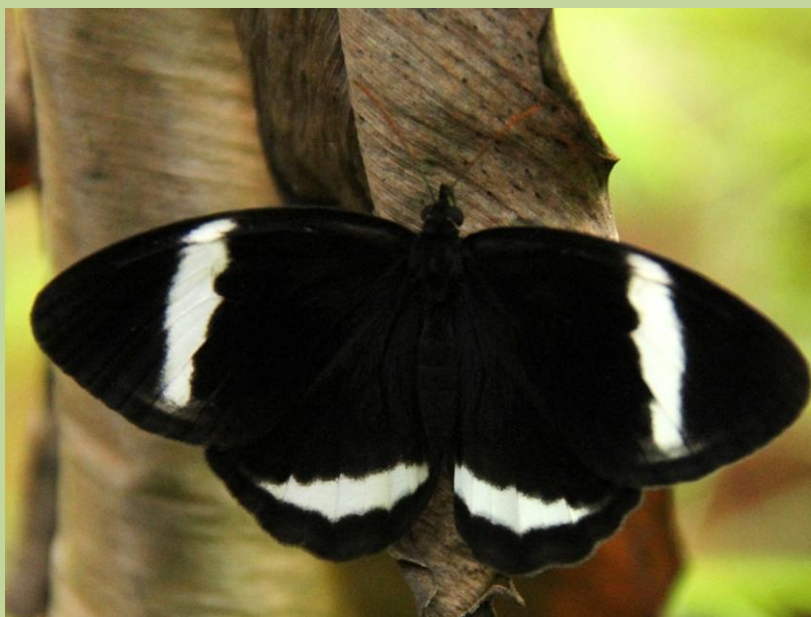
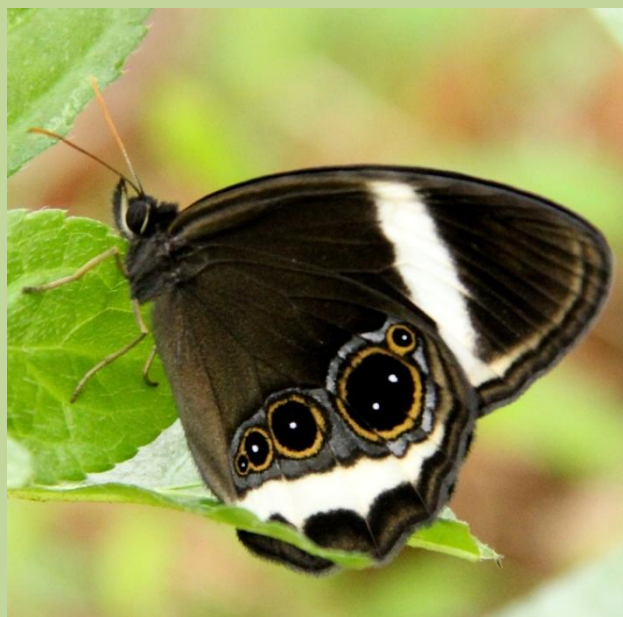
Larval Host Plants:

Axonopus compressus, Grass spp. (Family Poaceae).

Distribution:

Y. h. huebneri Kirby, 1871: Throughout India.

Tamil Catseye *Zipaetis saitis* Hewitson, 1863



UN and UP by Anila Manalil

Wing Span: 60–65 mm.

Larval Host Plants:

Data deficient.

Distribution:

Karnataka to Kerala.

Nigger *Orsotriaena medus* (Fabricius, 1775)

UN by Raju Kasambe



UP by Anila Manalil

Wing Span: 45–55 mm.

Larval Host Plants:

Imperata spp., *Oryza sativa*, Grass spp. (Family Poaceae),

Distribution: Subspecies:

O. m. mandata (Moore, 1857): Maharashtra; Madhya Pradesh and Chhattisgarh south to Kerala.

Common Evening Brown *Melanitis leda* (Linnaeus, 1758)



Clockwise from top left: UN WSF and UN DSF by Raju Kasambe; UP by Tarun Karmakar

Wing Span: 60–80 mm.

Larval Host Plants:

Apluda spp., grass spp. including rice (*Oryza sativa*), bamboos,

Cyrtococcum spp., *Cynodon*, *Imperata*, *Eleusine* spp., and millets such as *Oplismenus compositus*, *Panicum* spp. and *Eleusine indica*, *Zea mays* (Family Poaceae).

Distribution: Subspecies:

M. l. leda (Linnaeus, 1758): Throughout India including Lakshadweep and Andaman & Nicobar Is.

Dark Evening Brown *Melanitis phedima* (Cramer, 1780)

UN by Raju Kasambe



UN by Vinayaraj

Wing Span: 60–85 mm.**Larval Host Plants:***Microstegium ciliatum*, *Setaria palmifolia* (Family Poaceae).**Distribution: Subspecies:***M. ph. varaha* Moore, 1857: Maharashtra to Kerala.

Great Evening Brown *Melanitis zitenius* (Herbst, 1796)



UN by Raju Kasambe

Wing Span: 80–95 mm.

Larval Host Plants:

Data deficient.

Distribution: Subspecies:

M. z. gokala Moore, 1857: Maharashtra to Kerala.

Travancore Evening Brown *Parantirrhoea marshalli* Wood-Mason, 1881

UN by Subhiksha S.

Wing Span: 55–65 mm.

Larval Host Plants:

Indian Reed Bamboo *Ochlandra travancorica* (Family Poaceae).

Endemicity:

Endemic to Western Ghats.

Distribution:

Karnataka to Kerala.

Common Palmfly *Elymnias hypermnestra* (Linnaeus, 1763)

UN by Raju Kasambe



Male UP by J.M. Garg

Wing Span: 60–80 mm.

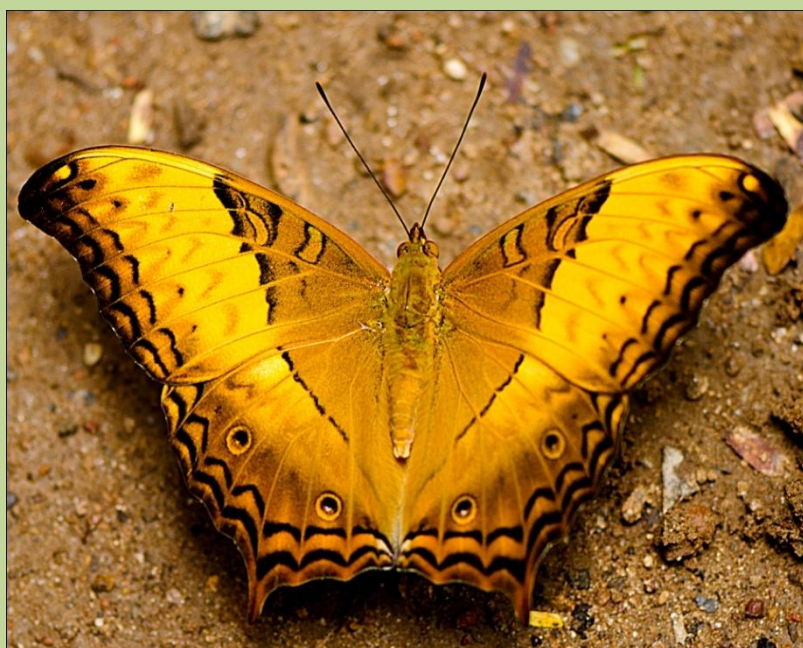
Larval Host Plants:

Areca nut *Areca catechu*, *Arena wightii*, *Canes Calamus* spp. (*Calamus pseudo-tenuis*, *Calamus rotang*, *Calamus thwaitesii*), Coconut *Cocos nucifera*, Palm *Phoenix* spp. (*Phoenix loureiroi*), and *Licuala* spp. (Family Arecaceae).

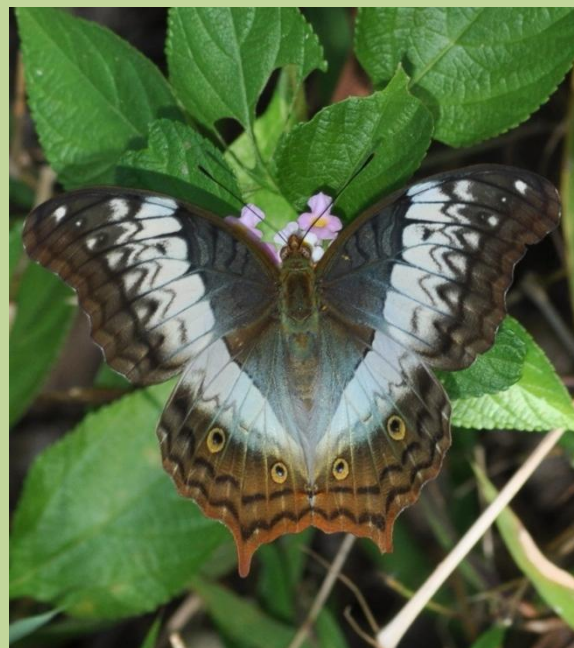
Distribution: Subspecies:

E. h. caudata Butler, 1871: Maharashtra to Kerala.

Cruiser *Vindula erota* (Fabricius, 1793)



UP Male by Uajith



UP Female by Sandip



UN Male by Anila Manalil

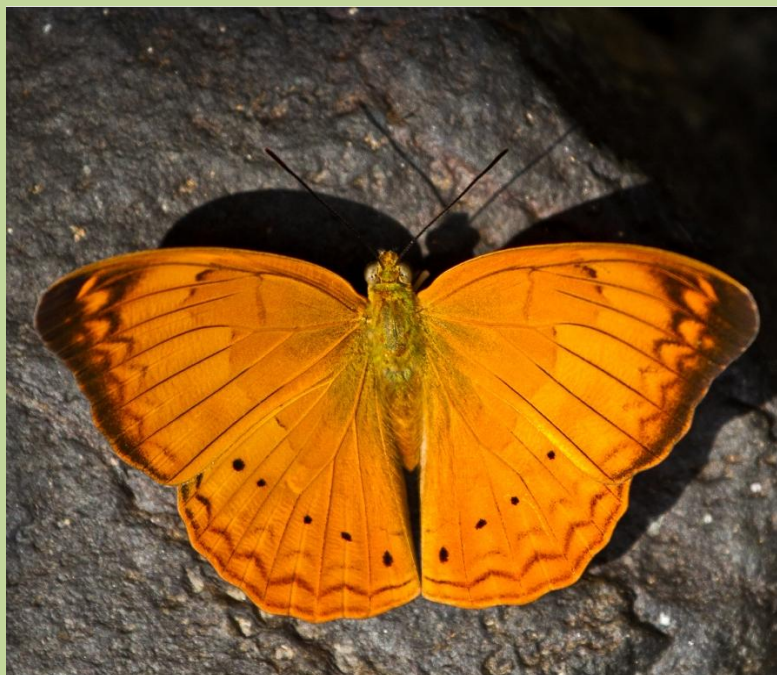
Wing Span: 72–110 mm.

Larval Host Plants:

Adenia hondala (Family Passifloraceae)

Distribution: Subspecies:

V. e. saloma de Niceville, 1886: Maharashtra to Kerala.

Tamil Yeoman *Cirrochroa thais* (Fabricius, 1787)

UP by Vivek Puliyeri



UN by Jeevan Jose

Wing Span: 60–75 mm.

Larval Host Plants:

Hydnocarpus wightiana (Flacourtiaceae).

Endemicity:

Endemic to Western Ghats and Sri Lanka.

Distribution:

C. t. thais (Fabricius, 1787): Gujarat to Kerala.

Rustic *Cupha erymanthis* (Drury, 1773)

UP and UN by Jeevan Jose

Wing Span: 50–60 mm.

Larval Host Plants:

Flacourtia indica, *F. montana* (Family Flacourtiaceae).

Distribution: Subspecies:

C. e. maja Fruhstorfer, 1898: Maharashtra to Kerala.

Small Leopard *Phalanta alcippe* (Stoll, 1782)

UP and UN by Jeevan Jose

Wing Span: 35–50 mm.

Larval Host Plants:

Alsodeia zeylanica, *Rinorea bengalensis* (Family Violaceae).

Distribution: Subspecies:

P. a. mercea (Evans, 1924): Maharashtra to Kerala.

Common Leopard *Phalanta phalantha* (Drury, 1773)

UP and UN by Raju Kasambe

Wing Span: 50–60 mm.

Larval Host Plants:

Flacourtia montana, *F. ramontchi*, *F. sepiaria*, *Xylosma longifolium* (Family Flacourtiaceae).

Distribution:

P. p. phalantha (Drury, [1773]): Throughout India.

Indian Fritillary *Argyreus (Argynnis) hyperbius* Linnaeus, 1763

UP and UN by Dhaval Momaya

Wing Span: 65–85 mm.

Larval Host Plants:

Viola betonicifolia (Family Violaceae).

Distribution: Subspecies:

A. h. castetsi Oberthur, 1891: Kerala; Tamil Nadu.

Subspecies:

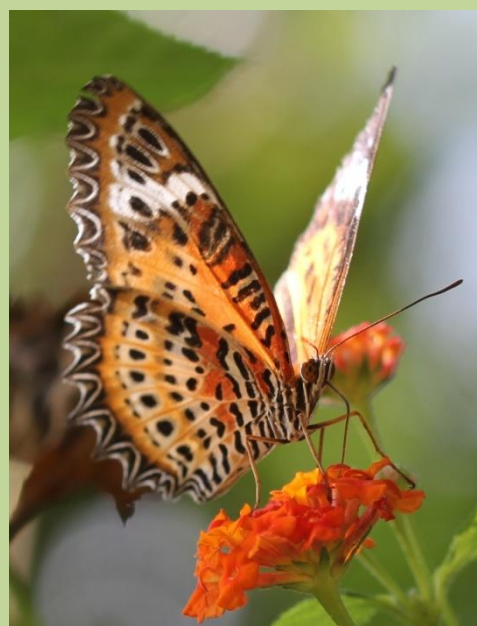
A. h. hybrida Evans, 1912: Tamil Nadu.

Subspecies:

A. h. hyperbius (Linnaeus, 1763): Rajasthan to Madhya Pradesh, Gujarat, Uttar Pradesh; Jammu & Kashmir to N.E. India.

Tamil Lacewing *Cethosia nietneri* C. & R. Felder, [1867]

UP by Mukul Hinge



UN by Chinmayi S.K.

Wing Span: 80–95 mm.

Larval Host Plants:

Modecca palmate, *Passiflora edulis*, *P. subpeltata* (Family Passifloraceae).

Endemicity:

Endemic to Western Ghats and Sri Lanka.

Distribution:

C. n. mahratta Moore, 1872: Maharashtra to Kerala.

Tawny Coster *Acraea violae* (Fabricius, 1793)

UP and UN by Raju Kasambe

Wing Span: 50–65 mm.

Larval Host Plants:

Aporosa lindleyana (Family Euphorbiaceae), *Adenia hondala*, *Modecca palmata*, *Passiflora edulis*, *P. foetida*, *P. subpeltata* (Family Passifloraceae), *Hybanthus enneaspermus* (Family Violaceae), *Turnera ulmifolia* (Family Turneraceae).

Distribution:

Throughout India; Lakshadweep Is.

Commander *Moduza procris* (Cramer, 1777)

UP and UN by Raju Kasambe

Wing Span: 60–75 mm.

Larval Host Plants:

Hedyotis orixense, *Mitragyna parvifolia*, *Mussaenda frondosa*, *Neolamarckia cadamba*, *Ochreinauclea missionis*, *Wendlandia thyrsoides*, *Wendlandia exserta*, *Cinchona* spp. (Quinine trees), *Cadaba fruitcosa* (Family Rubiaceae).

Distribution: Subspecies:

M. p. undifragus Fruhstorfer, 1906: Gujarat eastwards to Odisha and southwards to Kerala.

Common Sergeant *Athyma perius* (Linnaeus, 1758)

UP by Raju Kasambe



UN by Vinayraj

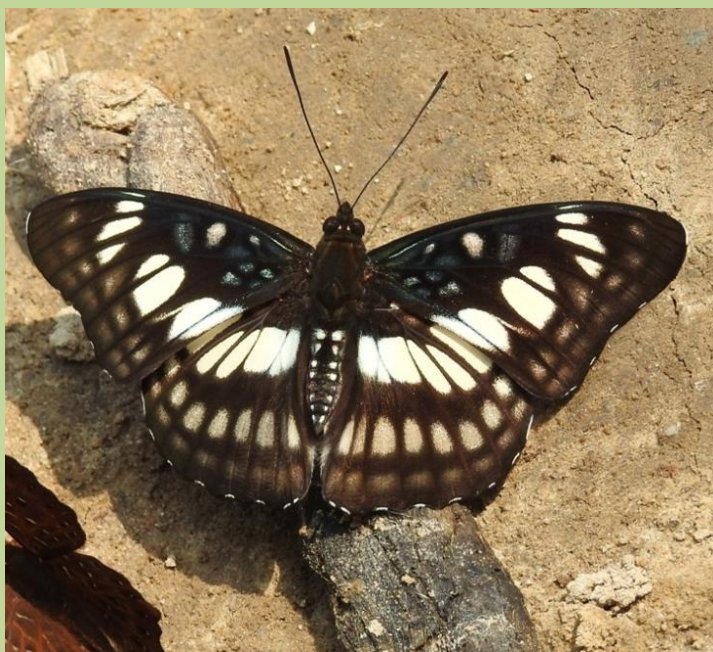
Wing Span: 60–70 mm.

Larval Host Plants:

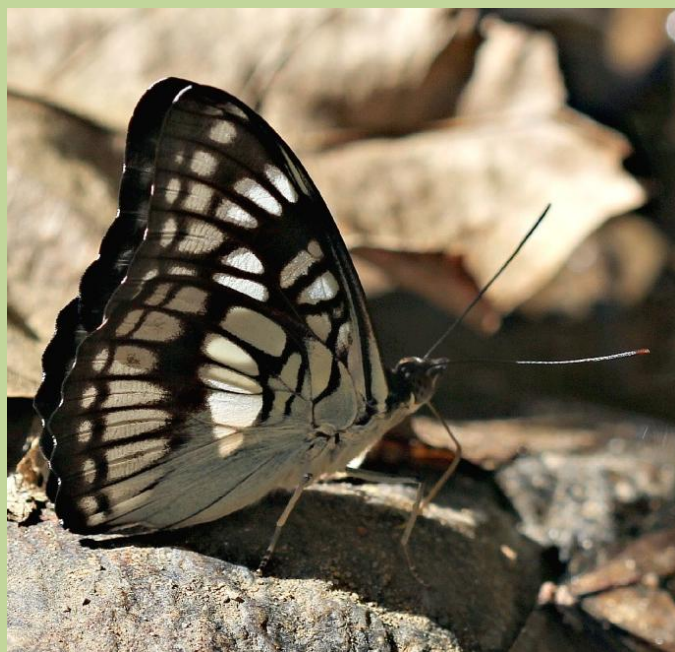
Glochidion lanceolarum, *G. velutinum* (Family Euphorbiaceae).

Distribution:

A. p. perius (Linnaeus, 1758): Kerala north to Maharashtra, Madhya Pradesh and Jharkhand; Himachal Pradesh to N.E. India.

Blackvein Sergeant *Athyma ranga* Moore, 1857

UP by Raju Kasambe



UN by Chinmayi S.K.

Wing Span: 60–70 mm.**Larval Host Plants:***Ligustrum* spp., *Linociera malabarica*, *Olea dioica* (Family Oleaceae).**Distribution: Subspecies:***A. r. karwara* Fruhstorfer, 1906: Karnataka to Kerala.

Staff Sergeant *Athyma selenophora* (Kollar, 1844)

UP Female by Kishen Das



UP Male by L. Shyamal

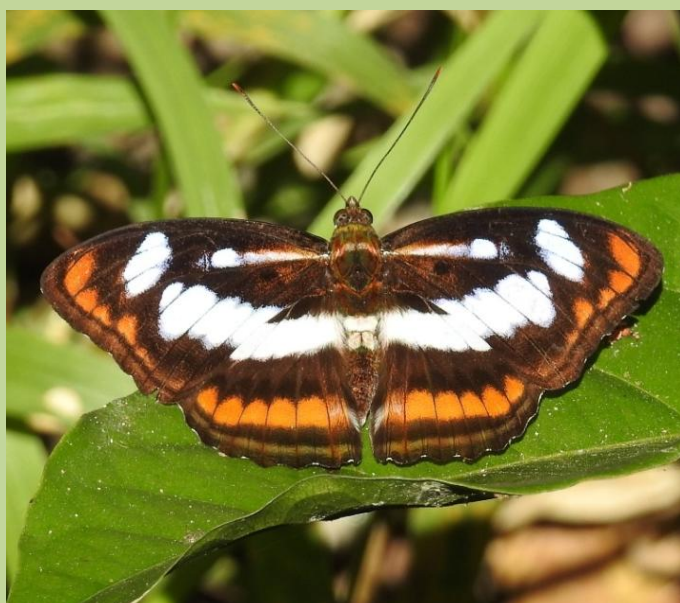
Wing Span: 55–75 mm.

Larval Host Plants:

Haldina (Adina) cordifolia (Family Rubiaceae).

Distribution: Subspecies:

A. s. kanara (Evans, 1924): Goa east to Jharkhand and southwards to Kerala.

Colour Sergeant *Athyma nefte* (Cramer, 1780)

UP Female and UP Male by Raju Kasambe

Wing Span: 55–70 mm.

Larval Host Plants:

Glochidion sp. (Family Euphorbiaceae).

Distribution:

A. n. inara (Westwood, 1850): Uttarakhand to N.E. India; Karnataka to Kerala and northwards to Odisha.

Common Lascar *Pantoporia hordonia* (Stoll, 1790)

UP and UN by Raju Kasambe

Wing Span: 45–50 mm.

Larval Host Plants:

Acacia concinna, *A. megadalene*, *A. pennata*, *Albizia corniculata*, *A. odoratissima*, *Pithecellobium* sp. (Family Mimosaceae).

Distribution: Subspecies:

P. h. hordonia (Stoll, [1784]): Maharashtra eastwards to W. Bengal and southwards to Kerala; Uttarakhand to N.E. India.

Extra Lascar *Pantoporia sandaca* (Butler, 1892)

UP by Rajkamal Goswami

Wing Span: 45–50 mm.

Larval Host Plants:

Data deficient.

Distribution: Subspecies:

P. s. davidsoni Eliot, 1969: Uttarakhand to N.E. India, peninsular India south of Maharashtra.

Common Sailer *Neptis hylas* (Linnaeus, 1758)

UP and UN by Raju Kasambe

Wing Span: 50–60 mm.

Larval Host Plants:

Moulluva spicata (Family Caesalpiniaceae), *Dalbergia* sp., *Pongamia glabra*, *Xylia dolabriformis* (Family Fabaceae), *Bombax malabaricum*, *Thespesia populnea* (Family Malvaceae), *Zizyphus* sp. (Family Rhamnaceae), *Elaeocarpus* sp., *Grewia* sp. (Family Tiliaceae).

Distribution: Subspecies:

N. h. varmona Moore, 1872: Gujarat, Madhya Pradesh and Jharkhand southwards to Kerala.

Short-banded Sailer *Phaedyma columella* (Cramer, [1780])**(Syn. *Neptis columella* (Cramer, 1780))**

UP and UN by Raju Kasambe

Wing Span: 60–70 mm.**Larval Host Plants:***Dalbergia* spp., *Pterocarpus* sp. (Family Fabaceae).**Distribution: Subspecies:***Ph. c. nilgirica* (Moore, 1889): Gujarat eastwards to W. Bengal and southwards to Kerala.

Chestnut-streaked Sailer *Neptis jumbah* (Moore, 1858)

UP and UN by Raju Kasambe

Wing Span: 60–70 mm.

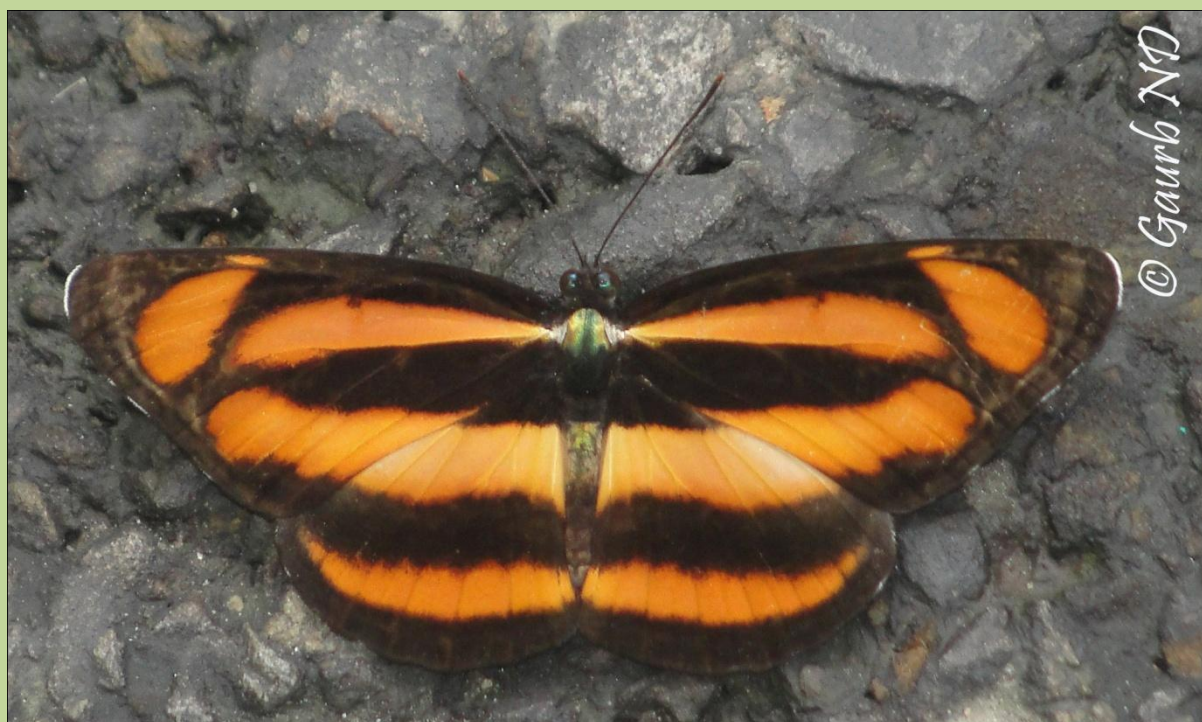
Larval Host Plants:

Bombax ceiba, *Thespesia populnea* (Family Malvaceae), *Moullava spicata* (Family Caesalpiniaceae), *Dalbergia sp.*, *Pongammia pinnata*, *Caesalpinia bonduc* (Family Fabaceae), *Ziziphus mauritiana* (Family Rhamnaceae), *Byttneria herbacea* (Family Sterculiaceae), *Grewia sp.* (Family Tiliaceae).

Distribution: Subspecies:

N. j. jumbah Moore, [1858]: Gujarat eastwards to W. Bengal and southwards to Kerala; Sikkim to N.E. India.

Yellow Jack Sailer *Lasippa viraja* (Moore, 1872)
(Syn. Yellowjack Sailer)



UP by Gaurab Nandi Das

Wing Span: 55–75 mm.

Larval Host Plants:

Blackwood tree *Dalbergia latifolia* and *Dalbergia racemosa* (Family Fabaceae).

Distribution: Subspecies:

L. v. kanara (Evans, 1924): Goa to Kerala.

Sullied Sailer *Neptis nata* Moore, [1858]

(Syn. *N. soma*)



UP by Raju Kasambe

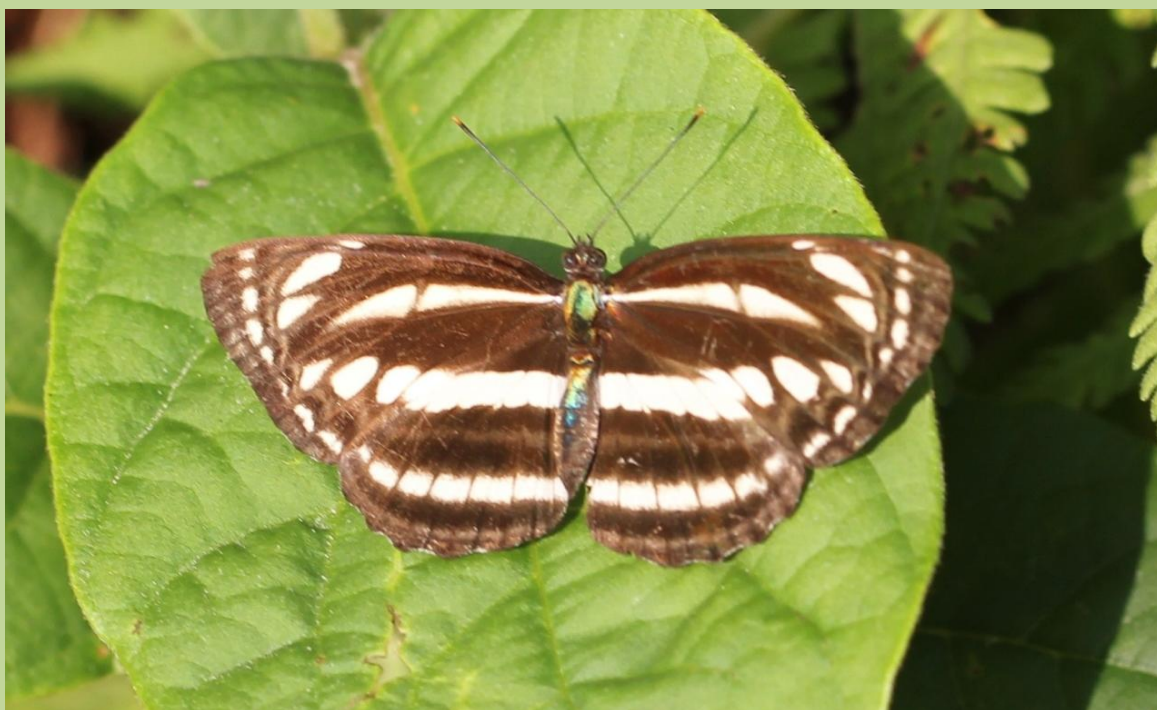
Wing Span: 45–60 mm.

Larval Host Plants:

Celtis spp. (Family Ulmaceae).

Distribution: Subspecies:

N. n. hampsoni Moore, 1899: Goa to Kerala.

Clear Sailer *Neptis clinia* Moore, 1872

UP by Raju Kasambe

Wing Span: 45–60 mm.

Larval Host Plants:

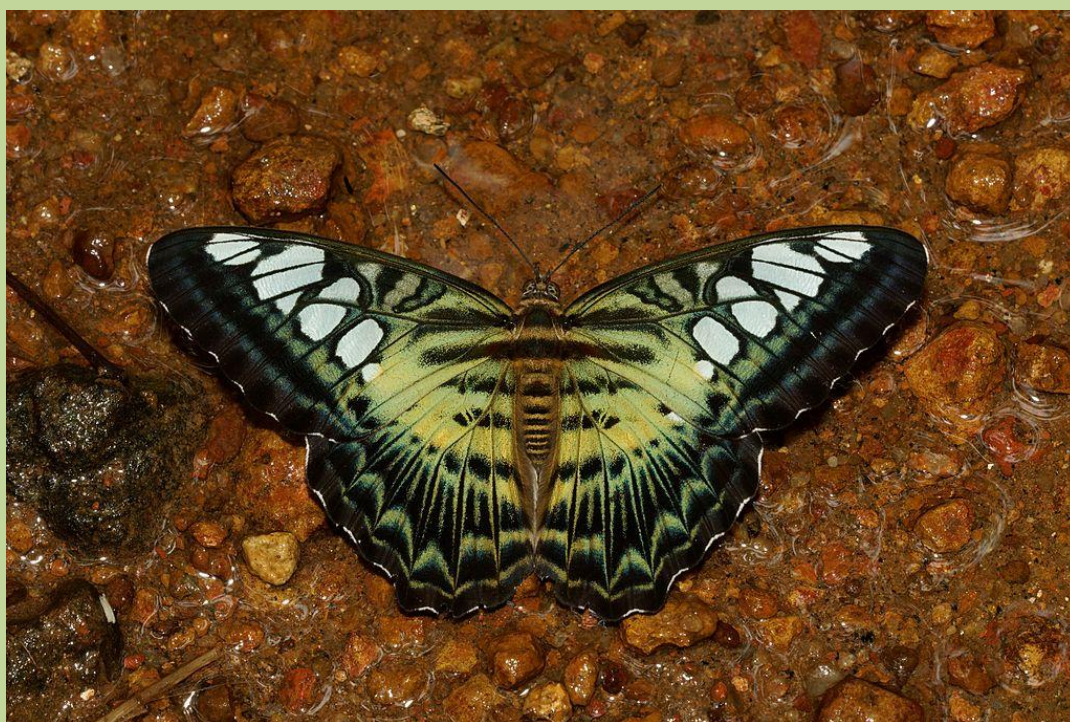
Data deficient.

Distribution: Subspecies:

N. c. kallaura Moore, 1881: Maharashtra to Kerala.

Clipper *Parthenos sylla* (Donovan, 1842)

(Syn. *Parthenos sylvia* (Cramer, 1775))



UP by Jeevan Jose

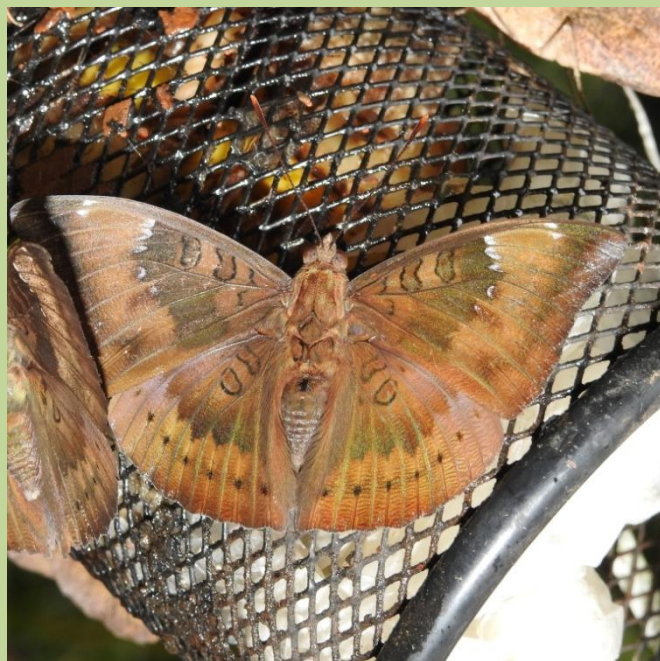
Wing Span: 95–130 mm.

Larval Host Plants:

Tinospora cordifolia (Family Menispermaceae), *Adenia hondala*, *Modecca* spp. (Family Passifloraceae).

Distribution: Subspecies:

P. s. virens Moore, [1877]: Maharashtra to Kerala.

Common Baron *Euthalia aconthea* (Cramer, 1777)

UP Female and UP Male by Raju Kasambe

Wing Span: 55–88 mm.

Larval Host Plants:

Cashew tree *Anacardium occidentale*, Mango *Mangifera indica* (Family Anacardiaceae), *Bryonia* spp. (Family Cucurbitaceae), *Streblus asper* (Family Urticaceae).

Distribution: Subspecies:

E. a. anagama Fruhstorfer, 1913: Maharashtra to Odisha; Himachal Pradesh to Uttarakhand and Uttar Pradesh.

Subspecies:

E. a. meridionalis Fruhstorfer, 1913: Maharashtra to Kerala and Andhra Pradesh.

Gaudy Baron *Euthalia lubentina* (Cramer, 1777)

Clockwise from top left: UP Male by Raju Kasambe, UP Female by David Raju and UN Male by Raju Kasambe

Wing Span: 60–80 mm.

Larval Host Plants:

Scurrula parasitica (Family Loranthaceae).

Distribution: Subspecies:

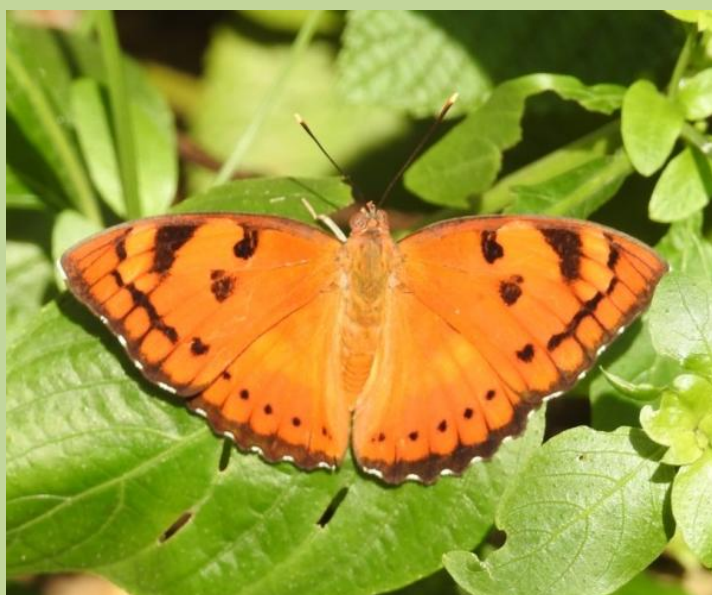
E. l. arasada Fruhstorfer, 1913: Maharashtra to Kerala.

Subspecies:

E. l. lubentina (Cramer, [1777]): Maharashtra and Gujarat eastwards to Haryana, Odisha and West Bengal; Himachal Pradesh to N.E. India.

Baronet *Symphaedra nais* (Forster, 1771)

(*Euthalia nais* (Forster, 1771))



UP and UN by Raju Kasambe

Wing Span: 60–70 mm.

Larval Host Plants:

Sal *Shorea robusta* (Family Dipterocarpaceae), East Indian Ebony *Diospyros melanoxylon* (Family Ebenaceae).

Distribution:

Tamil Nadu to Gujarat and Rajasthan, eastwards to W. Bengal and along the Himalaya from Uttarakhand to W. Bengal.

Blue Baron *Cynitia telchinia* (Ménétriés, 1857)

(Syn. *Euthalia telchinia*)



UP and UN by Hemant Ogale

Wing Span: 70–85 mm.

Larval Host Plants:

Data deficient.

Distribution:

C. t. telchinia (Menetries, 1857): Karnataka; Sikkim to N.E. India.

Grey Count *Cynitia lepidea* (Butler, 1868)

(Syn. *Tanaecia lepidea* (Butler, 1868))



UP by Raju Kasambe

Wing Span: 65–85 mm.

Larval Host Plants:

Melastoma malabaricum (Family Melastomataceae), *Careya arborea* (Family Myrtaceae/Lecythidaceae).

Distribution: Subspecies:

C. l. miyana (Fruhstorfer, 1913): Maharashtra eastwards to Odisha and southwards to Kerala.

Red-spot Duke *Dophla evelina* (Stoll, 1790)

Clockwise from left: Female UN, Male UP and Female UP all photos by Hemant Ogale

Wing Span: 81–113 mm.

Larval Host Plants:

Cashew tree *Anacardium occidentale* (Family Anacardiaceae), East Indian Ebony *Diospyros melanoxylon*, *D. candolleana* (Family Ebenaceae)

Distribution: Subspecies:

E. e. laudabilis Swinhoe, 1890: Gujarat to Kerala.

Common Map *Cyrestis thyodamas* Boisduval, 1846

UP by Nandish Songire

Wing Span: 50–60 mm.

Larval Host Plants:

Indian Banyan *Ficus benghalensis*, Cluster Fig Tree *F. glomerata*, Sacred Fig or Peepal *F. religiosa* and other *Ficus* spp. (Family Moraceae).

Distribution: Subspecies:

C. t. indica Evans, 1924: Gujarat to Kerala.

Angled Castor *Ariadne ariadne* (Linnaeus, 1763)

UP by Raju Kasambe

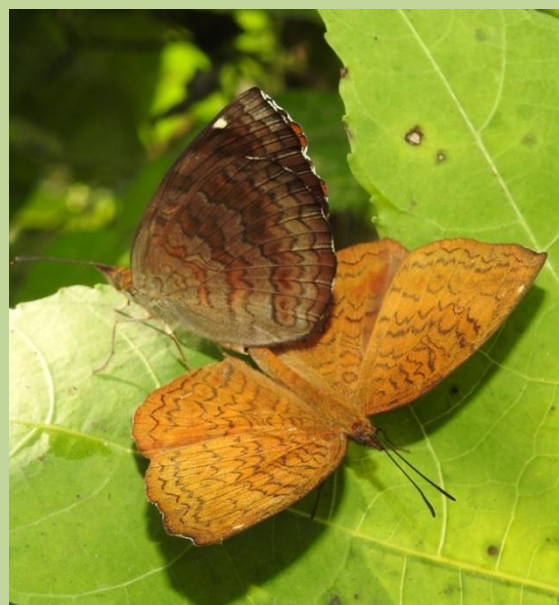
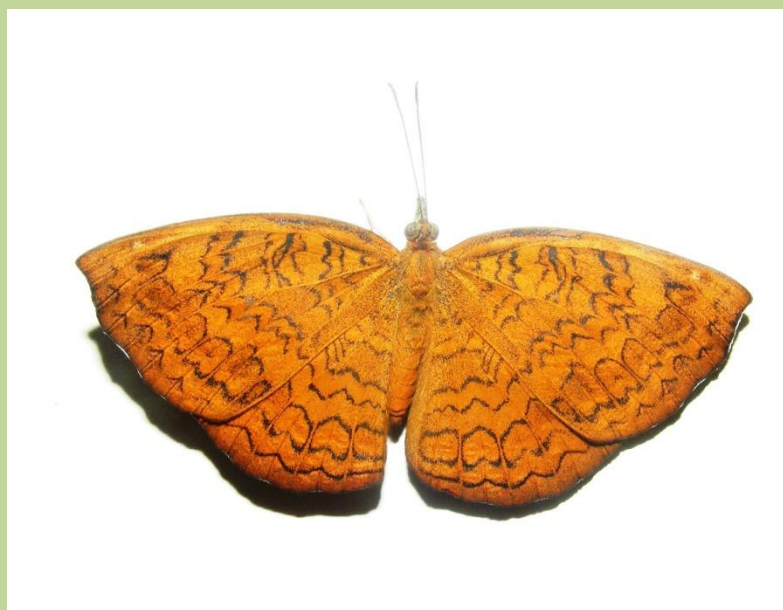
Wing Span: 45–60 mm.

Larval Host Plants:

Ricinus communis, Indian Stinging Nettle *Tragia involucrata*, *T. plukenetii* (Family Euphorbiaceae).

Distribution: Subspecies:

A. a. indica (Moore, 1884): Peninsular India from Gujarat and W. Bengal to Kerala.

Common Castor *Ariadne merione* (Cramer, 1777)

UP and mating by Raju Kasambe

Wing Span: 45–60 mm.

Larval Host Plants:

Ricinus communis, Indian Stinging Nettle *Tragia involucrata*, *T. plukenetii* (Family Euphorbiaceae).

Distribution: Subspecies:

A. m. merione (Cramer, [1777]): Gujarat to Kerala and Andhra Pradesh.

Joker *Byblia ilithyia* (Drury, 1773)

UP and UN by Raju Kasambe

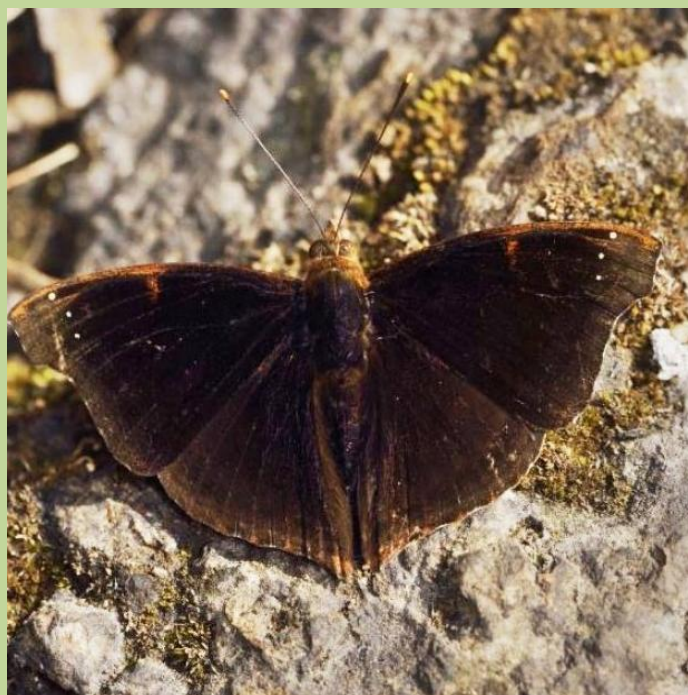
Wing Span: 45–55 mm.

Larval Host Plants:

Indian Stinging Nettle *Tragia involucrata*, *T. plukenetii* (Family Euphorbiaceae).

Distribution:

Gujarat eastwards to Chhattisgarh and southwards to Tamil Nadu.

Black Prince *Rohana parisatis* (Westwood, 1850)

Female UP by Mandar Sawant and Male UP by Divakar Thombre

Wing Span: 45–50 mm.

Larval Host Plants:

Celtis cinnamomea, *C. lycodoxylon* (Family Ulmaceae).

Distribution: Subspecies:

R. p. atacinus Fruhstorfer, 1913: Kerala to Maharashtra.

Painted Courtesan *Euripus consimilis* (Westwood, 1850)

UN by PKG Mohan

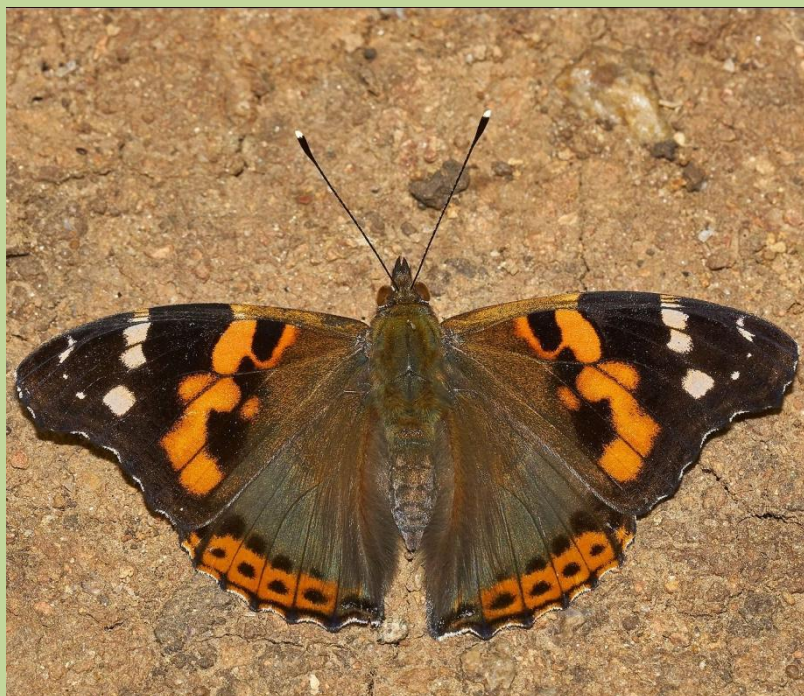
Wing Span: 60–85 mm.

Larval Host Plants:

Charcoal-tree *Trema orientalis* (Family Cannabaceae/Urticaceae).

Distribution: Subspecies:

E. c. meridionalis Wood -Mason, 1881: Maharashtra to Kerala.

Indian Red Admiral *Vanessa indica* (Herbst, 1794)

UP and UN by Jeevan Jose

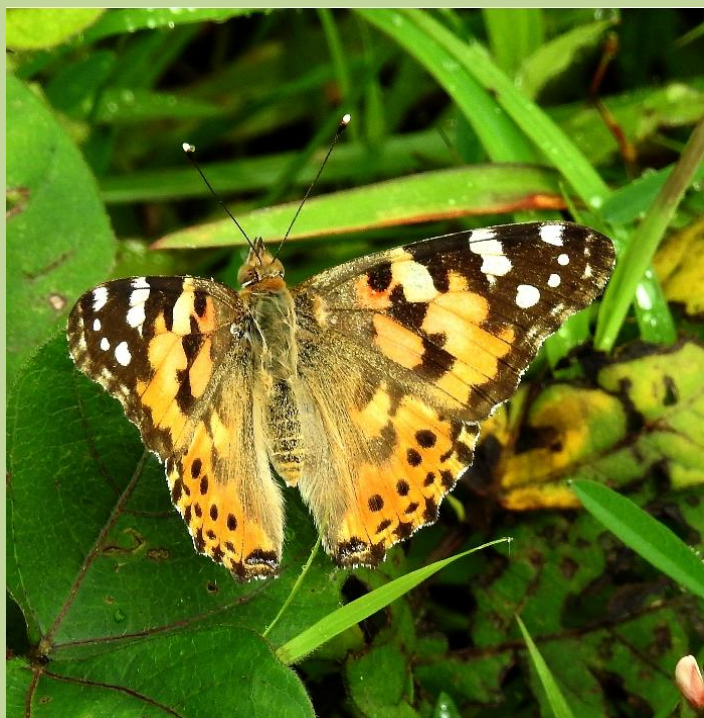
Wing Span: 55–65 mm.

Larval Host Plants:

Bohemeria spp., *Girardinia diversifolia*, *Urtica dioica* (Family Urticaceae).

Distribution: Subspecies:

V. i. pholoe Fruhstorfer, 1912: Karnataka to Kerala.

Painted Lady *Vanessa cardui* (Linnaeus, 1758)

UP and UN by Raju Kasambe

Wing Span: 55–70 mm.

Larval Host Plants:

Himalayan Nettle *Girardinia diversifolia* (Family Urticaceae), species of *Artemisia*, *Blumea*, *Gnaphalium*, *Tricholepis* (Family Asteraceae), *Zornia gibbosa* (Syn. *Zornia angustifolia*) (Family Fabaceae), *Debregeasia bicolor*.

Distribution:

Throughout India; straggler on Andamans and Lakshadweep Is.

Blue Admiral *Kaniska canace* (Linnaeus, 1763)

UP and UN by L. Shyamal

Wing Span: 60–75 mm.

Larval Host Plants:

Smilax spp. (Family Smilacaceae), Nepal Yam *Dioscorea deltoidea* (Family Dioscoreaceae).

Distribution: Subspecies:

K. c. viridis Evans, 1924: Karnataka to Kerala.

Gray Pansy *Junonia atlites* (Linnaeus, 1763)

UP and mating UN of DSF and WSF) by Raju Kasambe

Wing Span: 55–65 mm.

Larval Host Plants:

Barleria spp. (*B. cristata*), *Hygrophila auriculata* (Family Acanthaceae).

Distribution:

J. a. atlites (Linnaeus, 1763): Throughout India except arid regions; Andamans and Nicobars.

Peacock Pansy *Junonia almana* (Linnaeus, 1758)

Clockwise from left: UP, UN WSF and UN DSF by Raju Kasambe

Wing Span: 60–65 mm.

Larval Host Plants:

Barleria spp. (*B. cristata*), *Hygrophila auriculata* (Family Acanthaceae), Frog Fruit *Osbeckia* sp. (Family Melastomataceae), *Phyla nodiflora* (Family Verbenaceae).

Distribution: Subspecies:

J. a. almana (Linnaeus, 1758): Throughout India including Andaman Is.

Yellow Pansy *Junonia hierta* (Fabricius, 1798)

UP and UN by Raju Kasambe

Wing Span: 45–60 mm.

Larval Host Plants:

Barleria spp. (*B. cristata*), *Hygrophila auriculata*, Bell Weed *Ruellia prostrata* (Family Acanthaceae).

Distribution: Subspecies:

J. h. hierta (Fabricius, 1798): Throughout India except N.E. India and the Andaman Is.

Chocolate Pansy *Junonia iphita* (Cramer, 1779)

UP and UN by Raju Kasambe

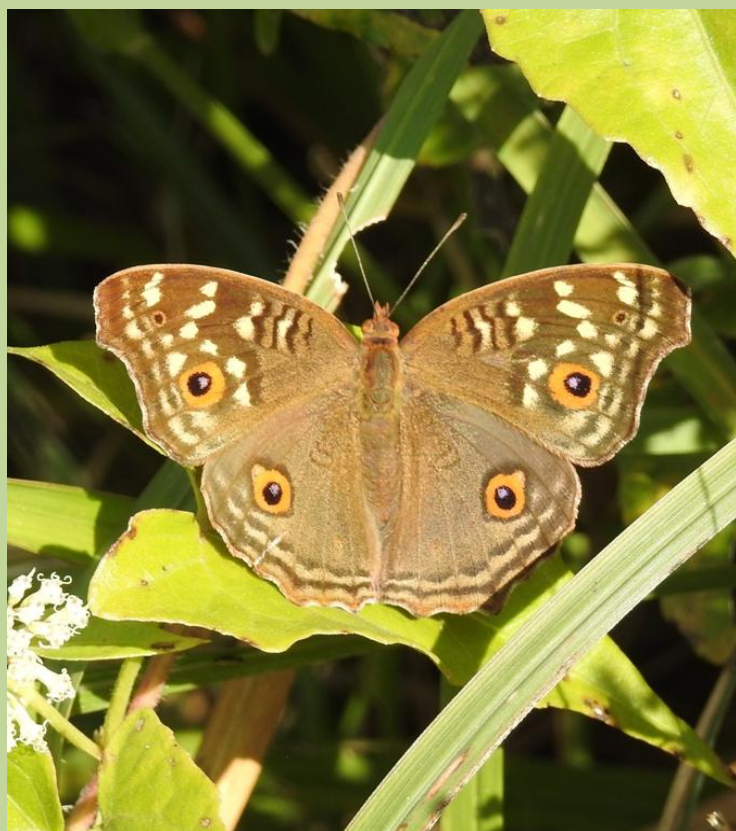
Wing Span: 55–80 mm.

Larval Host Plants:

Carvia callosa (Syn. *Strobilanthes callosa*), *Hygrophila auriculata*, *Justicia neesii*, *Lepidagathis prostrata* (Family Acanthaceae).

Distribution: Subspecies:

J. i. pluviatalis Fruhstorfer, 1900: Peninsular India to Madhya Pradesh.

Lemon Pansy *Junonia lemonias* (Linnaeus, 1758)

Clockwise from left: UP, UN WSF and UN DSF by Raju Kasambe

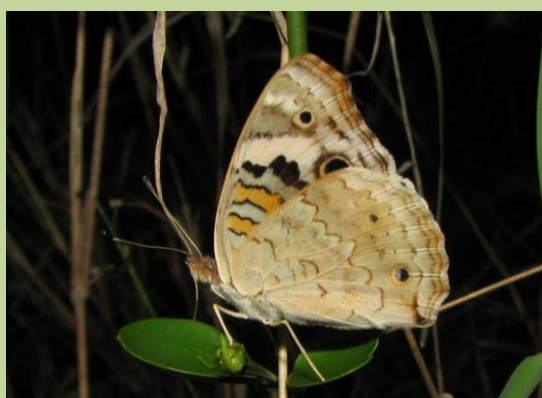
Wing Span: 40–60 mm.

Larval Host Plants:

Barleria spp. (*B. prionitis*), *Hygrophila auriculata*, *Justicia neesii*, *J. procumbens* (Family Acanthaceae), Arrowleaf Sida *Sida rhombifolia* (Family Malvaceae), White Jute *Corchorus capsularis* (Family Tiliaceae).

Distribution: Subspecies:

J. l. vaisya (Fruhstorfer, 1912): Rajasthan to Kerala and eastwards to Jharkhand.

Blue Pansy *Junonia orithya* (Linnaeus, 1758)

Clockwise from left: Male UP by J.M. Garg, Female UP and UN by Raju Kasambe

Wing Span: 45–60 mm.

Larval Host Plants:

Hygrophila auriculata, *Justicia procumbens*, *J. migrantha*, *Lepidagathis prostrata*, *Nelsonia campestris* (Family Acanthaceae), Arrowleaf Sida *Sida rhombifolia* (Family Malvaceae), Shame plant *Mimosa pudica* (Family Mimosaceae).

Distribution: Subspecies:

J. o. swinhoei Butler, 1885: Jammu & Kashmir to Kerala and W. Bengal.

Great Eggfly *Hypolimnys bolina* (Linnaeus, 1758)

Clockwise from top left: Female UP, Female UN, Male UP and Male UN by Raju Kasambe

Wing Span: 70–110 mm.

Larval Host Plants:

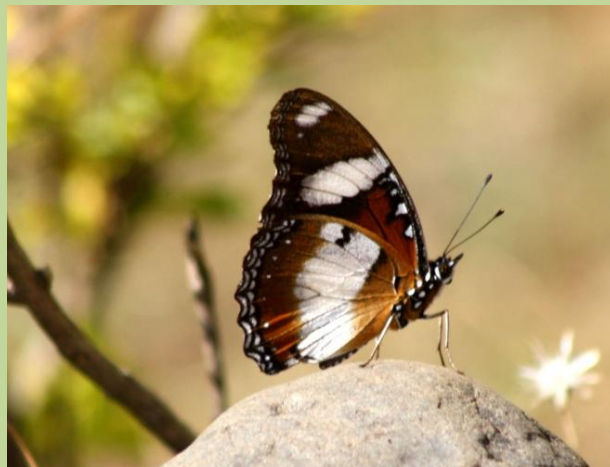
Abutilon sp., *Hibiscus* sp., Arrowleaf Sida *Sida rhombifolia* (Family Malvaceae), Common Purslane *Portulaca oleracea* (Family Portulacaceae), *Elatostemma cuneatum*, Hen's Nettle *Laportae interrupta* (Family Urticaceae).

Distribution:

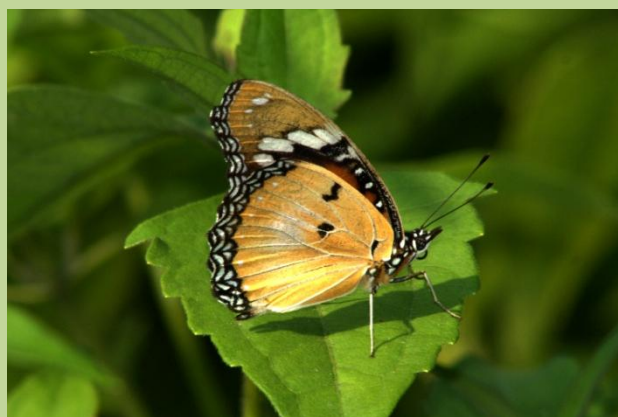
H. b. jacintha (Drury, 1773): Throughout India except very arid regions; Andaman & Nicobar Is.

Danaid Eggfly *Hypolimnas misippus* (Linnaeus, 1764)

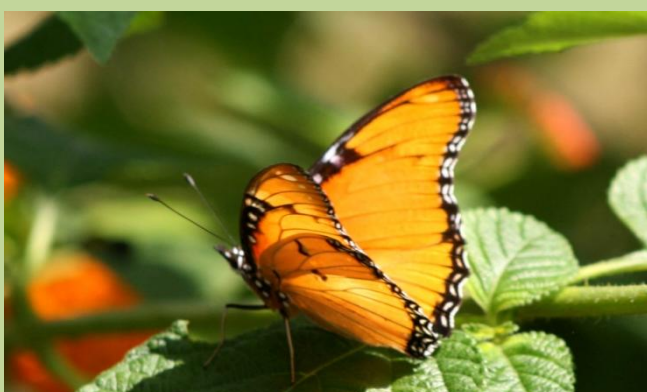
Male UP by Harishchandra Mhatre



Male UN by Raju Kasambe



Female UP and UN by Raju Kasambe

Female *inaria* form by Raju Kasambe**Wing Span:** 70–85 mm.**Larval Host Plants:**

Common Purslane *Portulaca oleracea* (Family Portulacaceae), *Asystasia lawiana*, *Barleria cristata* (Family Acanthaceae), *Abelmoschus* sp., *Abutilon* sp., *Hibiscus* sp. (Family

Malvaceae).

Distribution:

Throughout India, including Andaman & Nicobar Is.

Orange Oakleaf *Kallima inachus* (Boisduval, 1846)

UP by Shyam Ghate



UN by Dhaval Momaya

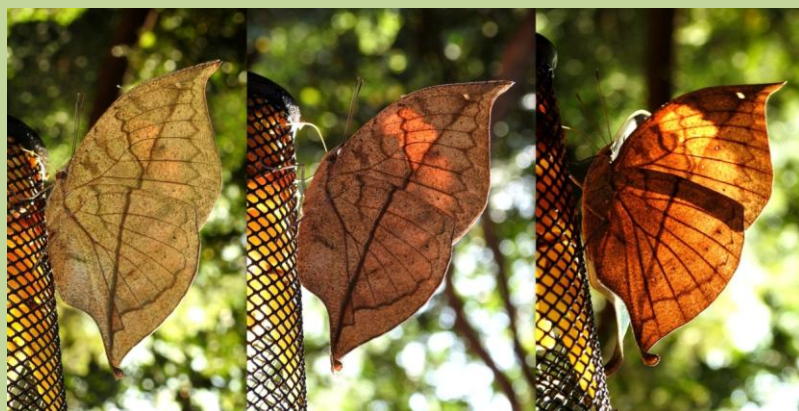
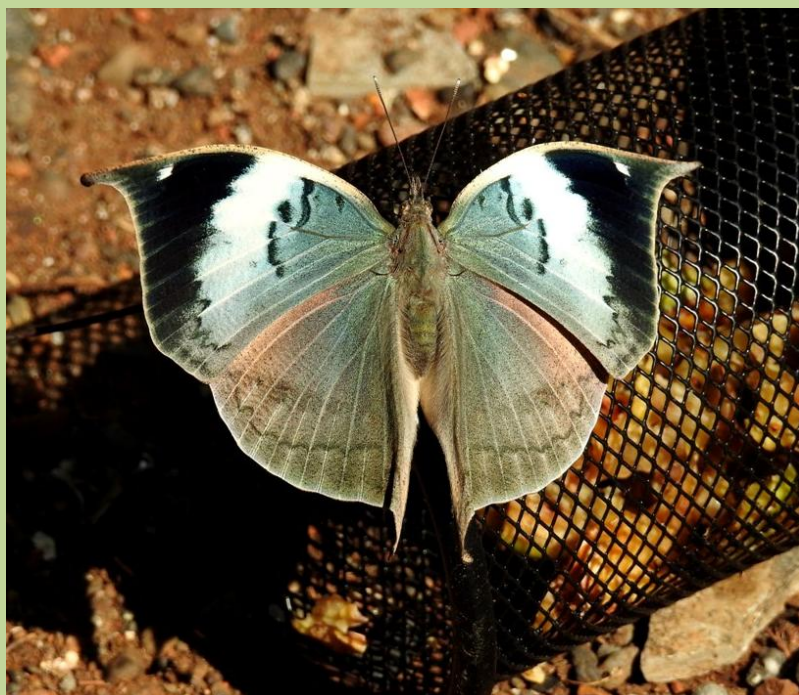
Wing Span: 85–110 mm.

Larval Host Plants:

Strobilanthes capitatus (Family Acanthaceae).

Distribution: Subspecies:

K. i. huegeli (Kollar, [1844]): Jammu & Kashmir to Uttarakhand; Jharkhand, Eastern Ghats, Madhya Pradesh and Gujarat.

Southern Blue Oakleaf *Kallima horsfieldi* (Kollar, 1844)

Clockwise from top left: UP and
UN and UN against sunlight
showing confusing shades by Raju
Kasambe

Wing Span: 85–110 mm.

Larval Host Plants:

Carvia callosa, *Eranthemum malabaricum* (Family Acanthaceae).

Distribution:

Maharashtra to Kerala.

Autumn Leaf *Doleschallia bisaltide* (Cramer, 1777)

UP and UN by Anila Manalil

Wing Span: 75–85 mm.

Larval Host Plants:

Eranthemum malabaricum, *Gratophyllum hortense* (Family Acanthaceae),
Urtica spp. (Family Urticaceae).

Distribution: Subspecies:

D. b. malabarica Fruhstorfer, 1899: Goa to Kerala.

Butterfly Gardening in India: An Introduction

In last few years there has been a tremendous increase in the interest in developing butterfly gardens (parks) in India. Many private as well as government butterfly gardens are coming up at various places across India. It is a good sign, in the sense we have started appreciating the importance of butterflies as objects of aesthetic value, for conservation as well as to create sustainable livelihood options for many. A short visit to a butterfly garden gives us enormous pleasure. I have visited butterfly gardens in Singapore and London and in India. I was fascinated to see so many colourful butterflies in these gardens and also to see thousands of visitors enjoying the company of butterflies! Unfortunately, we do not have a butterfly park as beautiful as the one in Singapore (on Sentosa Island) or in Kuala Lumpur.

Butterfly garden is a garden where you can see lot of butterflies belonging to different species at one place and in good numbers. An ideal butterfly garden is nothing but a miniature representation of the forest in the adjoining area where various plants and flowers are grown. The environment is made as conducive as possible for butterflies found in the area.

This article is an attempt to summarise the basics of butterfly gardening in India. These will hopefully answer most of the questions people ask us about butterfly gardening in India.

To set up a new butterfly garden what we need is a suitable piece of land at the right location, man power, working knowledge of landscaping, good knowledge about butterflies and their requirements, knowledge about plants and finances to run the garden. If you want to make it a public place, you need some advertisement or selling skills to attract people to visit the butterfly garden.

Understanding the laws of the land

Butterfly garden can be a closed one or an open one. A closed butterfly garden can be an entire garden covered with green nets. The butterflies are released into this enclosed area either as adult butterflies or are reared in the garden itself. In Singapore and London butterfly parks, they procure pupa (chrysalis) and keep them in small boxes till the butterflies emerge. As soon as the butterflies emerge they are released into the garden. In absence of any predators, the butterflies survive till they die naturally.

But the Indian Wildlife Protection Act (1972) considers butterflies as wild animals and it is illegal to keep any wild animal in an enclosure (or captivity, in the legal language). As soon as there is an enclosure, it becomes a zoo. And to run a zoo, permission is required from Central Zoo Authority of India and also it is mandatory to follow their guidelines for establishing and managing a zoo. Getting permission from this authority (though creating a butterfly park may be a good objective) is ‘mission impossible’ for a general citizen.

But permission can be sought by government zoos, if they want to set up “butterfly enclosures” in their zoos. Zoos in India have huge swathes of land at prime locations; they could actually prove that they can create butterfly parks in India.



Butterfly Garden enclosure at Changi Airport in Singapore by Raju Kasambe

Hence, for private butterfly parks or gardens (owned by an individual or a corporate), the only and best option is to set up an ‘open butterfly garden’ on your own or leased land. Here the butterflies are free ranging and no butterfly is captured or captive. Fortunately, we don’t need any permission to create an open butterfly park in India. An excellent example is the ‘Ovalekar Wadi Butterfly Garden’ at Ovala Village near Thane city in Maharashtra. This was set up by Mr. Rajendra Ovalekar, an enthusiastic teacher and BNHS member. This garden is located on the fringe area of Sanjay Gandhi National Park in his private farm. It now attracts more than 125 species of butterflies and hundreds of visitors on Sundays.

Understanding the life cycle of butterflies



Butterfly Egg by Raju Kasambe



Caterpillar by Raju Kasambe



Pupa by Raju Kasambe

Before starting work on setting up a butterfly garden one must understand the life cycle of butterflies. Butterfly life cycle completes in four stages, egg, caterpillar (larva), pupa (chrysalis) and adult butterfly. Every butterfly lays its eggs on one few selected species of plants, which are called larval host plants. The caterpillars emerge from these eggs and feed voraciously on the leaves or these larval host plants. The caterpillar moults few times and stops eating after certain growth and gets metamorphosed into a pupa. After few days, an adult butterfly emerges from this pupa.

That means butterflies need the larval host plants on which their caterpillars will grow and food for the adult butterflies on which they will survive.

Landscaping for butterfly garden

It is important to have a good location for the butterfly garden, especially the open butterfly garden. The best location will be near a patch of forest, as the butterflies can be attracted to the garden by fulfilling the necessary requirements. However, it is not necessary to have big plot to attract butterflies to the garden. Even a small plot can be converted into a decent butterfly garden. It is better to avoid setting up a new butterfly garden in very dry areas or very cold areas, deserts, and in highly urbanized areas with not many butterfly species around. Once the land is acquired, it is important to do landscaping of the plot as per the requirements of a butterfly garden. If it already has lot of tree, there is no need to cut the tree, but to ensure plantation of new plants at the right locations. Landscaping should be in such way that there are places which provide shade, lot of sunshine, and wet patches too.

How to attract butterflies

Once the location of the butterfly garden is decided, we need to know what are the requirements of butterflies or what are the things which attract them? As in India, we cannot have a closed butterfly garden, the best option we have is to attract the butterflies and make them stay around in the butterfly garden. Butterflies will surely stay around in the garden, if we fulfil all their requirements in the garden itself.

Larval Host Plants (LHP)

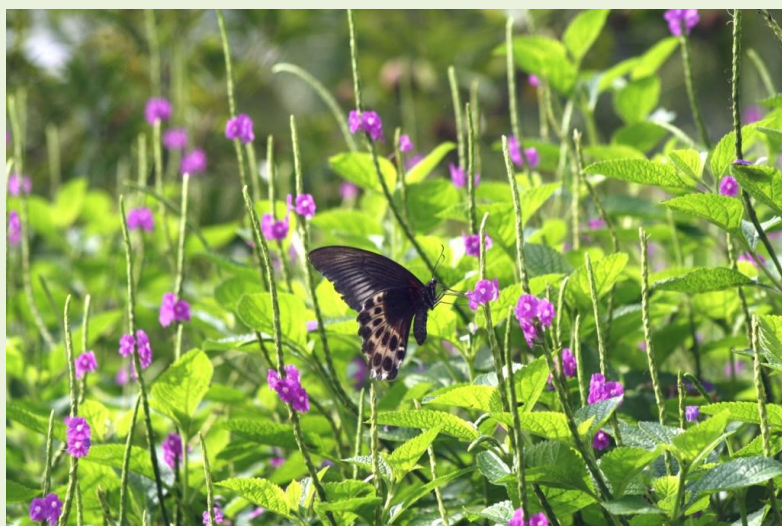
As mentioned above the life cycle of a butterfly completes in four stages, and each butterfly species lays its eggs on a specific plant (or a choice of few species of plants). The larva (or caterpillars) feed on these plants and hence these plants are termed as larval host plants (LHP). For example the Common Rose butterfly lays its eggs on *Aristolochia indica*, Spot Swordtail, Common Jay and Tailed Jay lays their eggs on *Polyalthia longifolia*, Common Mormon lays its eggs on *Murraya koenigii* (Curry Leaf) and *Citrus aurantifolia* (Lime tree).

The caterpillar which feeds on the LHP metamorphoses into a pupa in due course of time. The pupa is generally well camouflaged and stays immobile till an adult butterfly emerges out of it (there is nothing like a ‘baby butterfly’).

The more is the diversity of the larval host plants in the butterfly garden the more number of butterfly species will start breeding in the garden. And there are more chances of the butterflies staying back in the area if they can fulfil all their requirements in the area. Hence, as a part of developing the butterfly garden, it is a continuous process to find out more and more larval host plants and plant or grow them in the garden. It is important to have better understanding among the staff (at least the gardener) of the butterfly garden to prevent uprooting of the larval host plants, mistaking them to be useless weeds. This is important in view of the fact that some butterfly species lay their eggs on grasses.

Attracting ‘nectar-loving’ butterflies

Butterflies do not have teeth they cannot eat solid food. Butterflies can only sip liquid food with the help of a very thin tongue, called proboscis. And they do not grow once they are borne, they do not need a diversity of food for physical growth. What they need is liquid food which is rich in energy and acts like fuel



Blue Mormon *Papilio polymnestor* on *Stachytarpheta indica* by
Raju Kasambe

for maintenance of their life activities, including flight and reproduction. The best energy-rich food available around us is the nectar in flowers. The other sources of liquid food are rotten fruits and dead animals.

Many species of butterflies

love the nectar of flowers. These butterflies are attracted to the flowers due to their bright colours. Hence it is necessary to plant plots of flowering plants in the garden. The flowering plants should be selected carefully in such a way that throughout the year the garden has some plants flowering. Some of the common plants which attract lot of butterfly species for nectaring are *Lantana* spp., Jamaican Blue *Stachytarphaeta* spp., Cockscomb *Celosia* spp., wild *Xenia* spp. and *Ixora* species. A small herb *Tridax indica* attracts lot of blue (Lycaenid) butterflies for nectaring.

Every butterfly has its own choice of flowers it visits, due to the fact that the length of their proboscis varies in different species. Butterflies with short proboscis may not be able to sip nectar from flowers with a long tubular corolla. Some skippers have extremely long proboscis and hence can sip nectar from flowers with long tubular corolla. Many large sized swallowtail butterflies are not able to sip nectar from very small flowers



Silver Cockscomb *Celosia argentea* bushes attract many butterflies like
Pansies by Raju Kasambe

as the flowers cannot bear their weight. Hence some of the swallowtails do not land on the flowers and keep fluttering while nectaring. Thus we need to have a diversity of flowering plants in the garden to cater to the needs of the various species of butterflies. Also while planting the flowering plants, they should be planted keeping in mind their expected height to which they will grow. This will provide a vertical dimension to the garden. Small plots of flowering plants of a particular species should be planted, thus adding to the aesthetic value of the butterfly garden, besides attracting hordes of butterflies.

Attracting the ‘non-nectar-loving’ butterflies

It is a wrong notion that all butterflies love nectar in flowers. There are many species of butterflies (many belong to the brush-footed and brown butterflies) which never visit a flower. These butterflies like to get their stock of food from rotten fruits, decaying fish, crabs, or prawns, the scat or dung or urine of wild animals and so on. These butterflies locate the food because of the strong smell. Some of the butterflies which are attracted to these include the Common Nawab *Polyura athamas*, Anomalous Nawab *Charaxes agrarius*, Black Rajah *Charaxes solon*, Tawny Rajah *Charaxes bernardus*, Blue Oakleaf *Kallima horsfieldii*, Orange Oakleaf *Kallima inachus*, Common Baron *Euthalia aconthea*, Gaudy Baron *Euthalia lubentina*, Common Evening Brown *Melanitis leda*, Angled Castor *Ariadne ariadne*, Common Palmfly *Elymnias hypermnestra* and many bushbrowns *Mycalesis* spp.



Overripe and rotten fruits are kept in butterfly garden to fulfil the requirement of butterflies which don't like flowers. This is from Butterfly Garden at Singapore Airport by Raju Kasambe

Rotten fruits can be kept in feeding trays in the butterfly garden to attract these butterflies. These feeding trays with rotting fruits may attract ants, which in turn will disturb the butterflies. To manage this problem, each feeding tray should be kept in another slightly larger tray filled with water. This will prevent ants to reach the bowl with fruits, creating a moat-like situation like a. The feeding tray can also be kept hanging in trees at various locations in the garden. Rotten or overripe fruits of Pineapple *Ananas comosus*, Custard apple *Annona reticulata*, banana, guava and Sapota (Sapodilla or chikoo) *Manilkara zapota* are useful in attracting butterflies.

Attracting ‘alkaloid-loving’ males

Males of some butterfly species need specific alkaloids for reproduction. These alkaloids are provided by plants like Rattlepod *Crotalaria*, Turnsole *Heliotropium*, and *Eupatorium* species. The male butterflies flock these plants in huge numbers to suck these alkaloids and is a pleasant sight to see the butterflies engrossed in the activity. They need these chemicals to synthesize sex pheromones to attract females. Developing small plots of these plants ensure flocks of butterflies especially the tiger butterflies namely, Blue Tiger *Tirumala limniace*, Glassy Tiger *Parantica aglea*, Dark Blue Tiger *Tirumala*



Milkweed butterflies like Tigers and Crows are attracted towards *Crotalaria* to get alkaloids by Raju Kasambe

septrionis, Plain Tiger *Danaus chrysippus*, Striped or Common Tiger *Danaus genutia*, Nilgiri Tiger *Parantica nilgiriensis* and the crow butterflies namely, Common Indian Crow *Euploea core*, Brown King Crow *Euploea klugii*. These are also called brush-footed butterflies.

Attracting ‘mud-loving’ butterflies

In the landscape of the butterfly garden, if there is natural depression it should be watered more often to create a muddy spot and a wet patch. Plastic sheets can be buried under this muddy spot to manage to moisture level. Fine sand should be spread along the fringe of this muddy place and rotten leaf litter be mixed in the soil from time to time. Many butterflies (especially males of many species) visit such damp and muddy places to get their daily dose of water, minerals and various chemicals needed for their physiological needs. This is known as ‘mud-puddling’. Yellows of many species gather on mud for mud-puddling in huge numbers.

Also, before planting the plots of plants, a permanent arrangement for watering the plants should be done. This could be the sprinklers or other methods, which will save lot of manpower in future needed to water the entire garden nearly every day.



Many species of butterflies gather at wet muddy patches for mud-puddling by Raju Kasambe



Insecticides and weedicides should not be sprayed in butterfly garden in any case

What should not be done

One of the most important rules to be followed in butterfly gardening is to strictly avoid the use of any insecticide, pesticide, weedicide or any similar chemicals to kill or control some pests. These will eventually kill the butterfly caterpillars (which are nothing but butterflies to be borne) and drive the butterflies away from your butterfly garden.

Another thing is avoiding plantation of rose plants. These are useless for butterflies and need spaying of insecticides to protect it from various moth caterpillars.

Avoid using chemical fertilizers. Instead, the garden can have a small place where natural fertilizers can be produced using the leaf litter, cattle dung and other garbage from the garden. This natural fertilizer should be used for the larval host plants for their healthy growth.

Insecticides and weedicides should not be sprayed in butterfly garden in any case.

Landscaping

While setting up an open butterfly garden, it is necessary to have a plan of landscaping. But if there are trees already in place, the plan should be designed accordingly without cutting the existing trees. The plan should clearly describe the plots for flowering trees and take care of the needs of various species of trees as per their requirement and dependence on sunlight. There should be a small nursery totally enclosed to protect small saplings of various plants collected for the garden. Few saplings of each larval host plant (at least the rare once) should be protected here as genetic pool. Sometimes entire plants are finished by hordes of caterpillars. This stock will help replenish the plants in the garden again.



Butterfly garden landscaping should take into consideration many factors like parking space, toilets, etc.

(Photo- Dr. Raju Kasambe)

Landscaping should involve plan of narrow footpaths in the garden which allows access to most of the areas in the garden. These if planned well can prevent trampling of the plants by visitors, while trying to photograph some butterfly. These may not be of concrete, but of mall bricks to allow movement of caterpillars.

Sunshine is very important in the life of butterflies as they are cold blooded animals and need to bask in sunlight before they start their activities in the morning. They become active after basking in sunlight for some time. Hence the garden should have lot of flower beds with lot of sunshine.

While planting large trees in the garden, lot of planning and futuristic thinking is needed. When they grow, they should not create shadow in entire butterfly garden. If the garden is very big, the trees can be planted along the eastern edge or they should be planted along the western edge or forming a line running north-south in the middle of the garden. This will keep big areas with lot of sunlight.

A small shade for visitors with resting facilities, a tea and snacks kiosk and basic amenities like toilets ensure the comforts of the visitors.

Maintaining a Genetic Stock and nursery of plants

It is important to maintain a genetic stock of all the larval host plants as well as nectar plants in the form of seeds or grafts. The seeds should be collected whenever they are found and kept safe till the pre-monsoon period. The seeds should be grown in a netted nursery and then shifted to the butterfly garden. This should be done at least to plant species *Tagala* and *Aristolochia* as the caterpillars of Roses are known to finish the entire plants leaving nothing behind.

Manpower

To manage an open butterfly garden you need to hire at least one gardener, a plant expert, a butterfly expert and a person to manage the entire set up. Off course, you can play few roles out of these.

Money matters (Financial Management of the Garden)

You need some seeding money to start with butterfly gardening and there is no guarantee that it will earn you money. If you have the land needed to set up the butterfly garden available with you, the initial cost will be less. But there is recurring cost to maintain a butterfly garden which includes purchase of saplings, gardener, honorarium to butterfly and plant experts (many roles can be played by one person), electricity bills, and water bills and so on. Butterfly garden needs proper management and regular maintenance, otherwise the weeds overgrow the larval host plants and soon it loses the beauty of being a ‘butterfly garden’!

You can rear a butterfly in your house

Anybody can rear a butterfly in his house! That’s pretty simple. You can search for caterpillars on larval host plants of butterflies like a Lime tree *Citrus* spp. or a Curry Leaf tree *Murraya koenigii* may have caterpillars of Common Mormon *Papilio polytes* and Lime Butterflies *Papilio demoleus*. Pick that caterpillar and bring with it a stock of tender leaves to feed it on. Keep it in a transparent box. Keep some sticks in the box for the caterpillar to pupate. Clean the box



Readymade butterfly pupae are brought and kept in specially designed 'emergence cages' in closed butterfly gardens. The butterflies are released when they emerge from these pupae by Raju Kasambe

everyday for the excreta. The caterpillar will get converted to a pupa one day. One fine morning you will notice that a beautiful butterfly has emerged from the pupa. Free it as soon as it is ready to fly....It's your baby after all!

Future opportunities in India

In India, we can have small closed butterfly gardens in major zoos and at major International Airports for recreation. For maintaining these gardens, we can start rearing butterflies of belonging to the commoner but beautiful and colourful species, not necessarily rare or those protected under various Schedules of the Indian Wildlife Protection Act (1972), with the help of tribal communities and create thousands of jobs.

Butterfly 'nurseries' for selected species (not listed under the various schedules of the Act) can be set up where butterflies can be bred. The pupae reared from such 'nurseries' can be supplied to butterfly parks around the country. This can very well be done in villages around Western Ghats and the Himalayas by setting up of big nurseries of local larval host plants in village lands or in private lands. What is needed is little flexibility in the Indian Wildlife Protection Act (1972) and initiative from the NGOs or forest department.

Do's and don'ts of butterfly gardening:**Dos':**

1. Know the diversity of butterflies in your area.
2. Plant larval host plants.
3. Plant nectar plants.
4. Provide rotten fruits.
5. Keep a damp patch for mud puddling.
6. Keep some shady places.

Don'ts:

1. Avoid use of insecticides, weedicides (herbicides) or such chemicals.

List of some butterfly gardens in India:

Please note that this is not a comprehensive list. There are many more butterfly gardens and more are coming up. The list is in alphabetical order arranged according to the name of the states.

Butterfly Park (enclosure), Ramoji Film City, Hyderabad, Andhra Pradesh

Butterfly Conservatory of Goa, Ponda, Goa.

Sammilan Shetty's Butterfly Park, Santhadi House, Butterfly Park Road, Belvai Village, Mangalore, Karnataka

NPCIL plant site, Kaiga, Karnataka.

Butterfly Garden, Bhanerghatta, Bannerghatta National Park, Bengaluru, Karnataka

Butterflysafari, Thenmala, district Kollam, Kerala

Butterfly Park at Nilambur Teak Museum, Malappuram, Kerala

Sálim Ali Bird Sanctuary, Thattekad, Kerala

Thumboormuzhy, Peechi KFRI & Shakthan Thamburan Museum, district Thrissur, Kerala.

Nilamboor KFRI sub-center, district Malapuram, Kerala

Thattekad Bird Sanctuary, district Ernakulam, Kerala.

BNHS Conservation Education Centre Butterfly Garden, near Film City, Goregaon (E), Mumbai, Maharashtra.

Maharashtra Nature Park, Dharavi, Mumbai, Maharashtra.

Ovalekar Wadi Butterfly Garden, Ghodbundar Road, Ovala Village, Thane, Maharashtra.

NPCIL plant site, Boisar, district Palghar, Maharashtra.

Rotary Garden, Gharda Circle, Dombivli, district Thane, Maharashtra.

Butterfly Park, Vandalur Zoo, Chennai, Tamil Nadu.

Butterfly Park, Sri Rangam, Trichy, Tamil Nadu.

Banabitan Butterfly Garden, Salt Lake, Kolkata, West Bengal.

Eden Garden Butterfly Garden, Kolkata, West Bengal.

Ecopark Butterfly Garden, Rajarhat, Kolkata, West Bengal.

Ramsai Butterfly Conservatory, Gorumara National Park, West Bengal.

Reference:

Kasambe, R. (2015) Butterfly Gardening in India: An Introduction. Research Gate DOI: 10.13140/RG.2.1.4934.6164.=.

Endemic butterflies of Western Ghats

(As taken from Roy *et. al.* (2010) Kerala, an Authentic Handbook). The list needs updation- Author.

Papilionidae

1. Malabar Rose *Pachliopta pandiyana* (Moore, 1881). Range: Western Ghats south of Goa.
2. Southern Birdwing *Troides minos* (Cramer, [1779]). Range: Maharashtra to Kerala.
3. Malabar Banded Peacock *Papilio buddha* Westwood, 1872. Range: Western Ghats as far north as Goa.
4. Malabar Raven *Papilio dravidarum* Wood-Mason, 1880. Range: Western Ghats as far north as Goa.
5. Malabar Banded Swallowtail *Papilio liomedon* Moore, 1875. Western Ghats as far north as Goa.

Pieridae:

6. Nilgiri Clouded Yellow *Colias nilagiriensis* C. & R. Felder, 1859. Range: Kerala and Tamil Nadu.
7. Nilgiri Grass Yellow *Eurema nilgiriensis* Yata, 1990. Range: Karnataka; Kerala; Tamil Nadu.
8. Lesser Albatross *Appias wardi* (Moore, 1884). Range: Maharashtra to Kerala.

Nymphalidae:

9. Travancore Evening Brown *Parantirrhoea marshalli* Wood-Mason, 1880. Range: Karnataka to Kerala.
10. *Small Long-brand Bushbrown *Mycalesis igilia* Fruhstorfer, 1911. Note: There are two sub-species, viz., *M. i. igilia* Fruhstorfer, 1911 ranging from Karnataka to Kerala and *M. i. mercea* Evans, 1920 ranging from Madhya Pradesh to Maharashtra)(Varshney & Smetacek (2015).
11. Pale-brand Bushbrown *Mycalesis orcha* Evans, 1920. Range: Karnataka to Kerala.

12. Red-disc Bushbrown *Mycalesis oculus* Marshall, 1881. Range: Kerala and Tamil Nadu.
13. Redeye Bushbrown *Heteropsis adolphei* (Guerin-Meneville, 1843). Range: Karnataka; Tamil Nadu.
14. *Lepcha Bushbrown *Mycalesis lepcha* (Moore, 1880). Note: Not found in Western Ghats (Varshney & Smetacek (2015).
15. Tamil Catseye *Zipaetis saitis* Hewitson, 1863. Range: Karnataka to Kerala.
16. Palni Fourring *Ypthima ypthimoides* (Moore, 1881). Range: Kerala and Tamil Nadu.
17. Nilgiri Fourring *Ypthima chenu* (Guérin-Méneville, 1843). Range: Karnataka and Tamil Nadu.
18. Southern Blue Oakleaf *Kallima horsfieldi* (Kollar, [1844]). Range: Maharashtra to Kerala.
19. Nilgiri Tiger *Parantica nilgiriensis* (Moore, 1877). Range: Karnataka; Kerala; Tamil Nadu.
20. Malabar Tree Nymph *Idea malabarica* (Moore, 1890). Range: Maharashtra to Kerala.

Lycaenidae:

21. *Indian Pointed Pierrot *Tarucus indicus* Evans, 1932. Range: Dry zones from Rajasthan south to Tamil Nadu and east to West Bengal; Assam. Note: Listed as endemic but it is also reported from other areas.
22. Whitedisc Hedge Blue *Celatoxia albidisca* (Moore, 1884). Range: Karnataka; Kerala and Tamil Nadu.
23. Kanara Oakblue *Arhopala alea* (Hewitson, 1862)(Syn. Rosy Oakblue). Range: Goa to Kerala.
24. Abnormal Silverline *Spindasis abnormis* (Moore, [1884]): Range: Maharashtra to Tamil Nadu.
25. Shiva's Sunbeam *Curetis siva* Evans. 1954. Range: Goa to Kerala.

Hesperiidae:

26. *Spotted Small Flat *Sarangesa purendra* Moore, 1882. Treated as a species in Gaonkar (1996). Listed as a sub-species *Sarangesa purendra hopkinsi*

- Evans, 1921 by Varshney & Smetacek (2015). Range: Karnataka; Tamil Nadu.
27. *Pygmy Scrub Hopper *Aeromachus pygmaeus* (Fabricius, 1775). Range: Maharashtra to Kerala; Listed as endemic but it is also found in N.E. India.
28. White-branded Ace *Sovia hyrtacus* (de Niceville, 1897) (Syn. Bicolor Ace). Range: Goa to Kerala.
29. Madras Ace *Thoressa honorei* (de Niceville, 1887). Range: Goa to Kerala.
30. Tamil Ace *Thoressa sitala* (de Niceville, 1885) (Syn. Sitala Ace). Range: Karnataka; Kerala; Tamil Nadu.
31. Southern Spotted Ace *Thoressa astigmata* (Swinhoe, 1890) (Syn. Unbranded Ace). Range: Goa to Kerala.
32. Evershed's Ace *Thoressa evershedii* (Evans, 1910). Range: Karnataka; Kerala; Tamil Nadu.
33. Coorg Forest Bob *Arnetta mercara* Evans, 1932 (Syn. Coorg Forest Hopper). Range: Karnataka to Kerala.
34. *Vindhyan Bob *Arnetta vindhiana* (Moore, 1883). Note: The sub-species *Arnetta vindhiana nilgiriana* (Moore, 1883) is endemic to Western Ghats. Range: Tamil Nadu to Kerala. Mentioned as endemic in Peninsular India by Gaonkar 1996.
35. Golden Flitter *Quedara basiflava* (de Niceville, [1888]) (Syn. Golden Tree Flitter). Range: Karnataka to Kerala.
36. Tamil Dartlet *Oriens concinna* (Elwes & Edwards, 1897) (Syn. Kanara Swift). Range: Karnataka to Kerala.
37. Canara Swift *Caltoris canaraica* (Moore, [1884]). Range: Peninsular India south of Goa.

Reference:

Roy, P K., Harikumaar, B., and Hassan, S. (2010): *Kerala, an Authentic Handbook*. Information-Public Relations Dept., Thiruvananthapuram, Govt. of Kerala.

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About the e-Book

Butterflies of Western Ghats

This is an e-Book which can be downloaded free of cost and used on any smart phone or computer. It is made as a simple PDF so that any species can be searched using the search option.

This e-Book provides information about 277 species of butterflies found in Western Ghats part of India. For every species colour illustrations showing the upperside, underside, male and female, wherever dimorphic, are given. Even, information about the subspecies found in Western Ghats or South India is added. Along with common names and complete scientific names, wing span, larval host plants, and distribution of each species is given.

This e-Book has an entire chapter highlighting the importance of the Western Ghats as a 'Biodiversity Hotspot' besides a chapter on 'Butterfly Gardening'.

The common names, scientific names and distribution mostly follow the latest publication by Varshney & Smetacek (2015), other information (wing span, larval host plants) mostly follows Wynter-Blyth (1957), Kehimkar (2008 and 2016) and Kunte (2005). More information from major research papers and internet sources is also added.

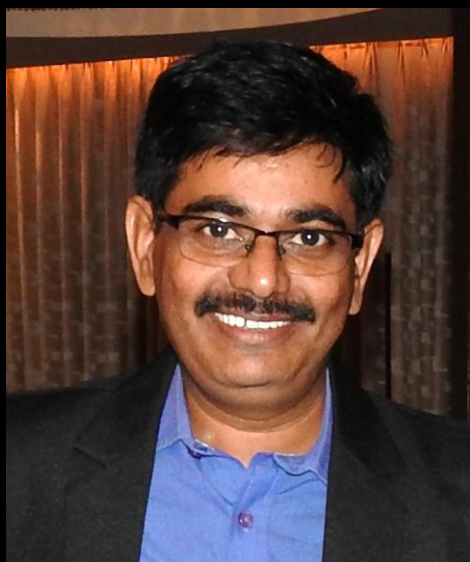
Abbreviations used:

DSF: Dry Season Form

WFS: Wet Season Form

UP: Upperside

UN: Underside



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